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Impact of Stress-Coping Strategies on Perceived Stress, Intrinsic Motivation, and Self-Efficacy Levels of Students

Tanya M. Hudson
Gardner-Webb University

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By
Tanya M. Hudson

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Approval Page

This dissertation was submitted by Tanya M. Hudson under the direction of the persons listed below. It was submitted to Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

Dr. A. Douglas Eury, Ed.D. Committee Chair	Date
Dr. Stephen Laws, Ed.D. Committee Member	Date
Dr. Melinda Ratchford, Ed.D. Committee Member	Date
Jeffrey Rogers, Ph.D. Dean of the Gayle Bolt Price School of Graduate Studies	Date

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Abstract

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Stress-coping strategies are identified by researchers as conditions used suitable to a situation when adolescents have a change in their environment or a stressor that they cannot control. The purpose of this dissertation was to explore the impact of stress-coping strategies on perceived stress levels, levels of intrinsic motivation, and self-efficacy. According to the research, stress results from an imbalance between the requirements of the environment and one's ability to cope with it (Aldwin, 2007). The inquiry was conducted in a high school of convenience where the researcher had access to the students available to participate in this mixed-method design.

The use of suitable coping strategies depends on several factors. Three researched-based stress-coping strategies were examined. Emotion-focused, avoidance-focused, and problem-focused skills were implemented into the study, and focus groups were used to embed the quantitative findings into the qualitative survey results. Research has shown that adolescents often benefit when they can combine one or more coping strategies to address the stressor. Since strategies have benefits and costs associated with them, it is necessary to identify the long-lasting stressors adolescents face in order to find a response related to or based on the context of the stressor.

The descriptive analysis of the presurvey and postsurvey, implementation of strategies, and open-ended discussion data collected were analyzed to determine the impact stress-coping strategies have on perceived stress levels, intrinsic motivation, and self-efficacy. A Chi-Square Goodness of Fit was used to indicate the distribution of responses along with the percentage of agreement between respondents on the whole item. The researcher combined three instruments into one survey to measure the students' perceived stress levels, levels of intrinsic motivation, and self-efficacy. The presurvey and postsurvey design was performed to determine a correlation in these three variables. The data from the quantitative and qualitative design combined were used to answer the three questions and to review any possible correlations of the three variables to determine a relationship using a Pearson correlation and t test. Results, strengths of the study, and limitations are discussed in the final dissertation.

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Chapter 1: Introduction

The human stress response, a complex phenomenon, incorporates multiple elements (Steiner et al., 2007). This response disrupts the normal internal balance of one's body (Sprung, 1998) and causes a rush of energy similar to anger, sadness, excitement, or joy when adolescents are under stress (Ayer, 2001). According to *Merriam Webster's Dictionary*, stress is a state resulting from a stressor; especially one of bodily or mental tension resulting from factors that tend to alter an existent equilibrium. Stress often is a response to life changes and the need to adjust to those changes (Packard, 1999). Students' bodies react to physical or mental demands or to the changes in daily routine, causing stress (Sprung, 1998). Aldwin (2007) referenced stress as being a quality of experience produced through a person's environment transaction that, through either overarousal or underarousal, results in a psychological or physiological distress. According to Ayer (2001), our bodies perceive stress as a threat to our emotional health. Therefore, adolescents need to develop coping strategies to deal with the increased seriousness of stress and those present-day stressors that affect their normal developmental process (de Anda, 1997).

Aldwin (2007) proposed that emotional reactions generally produce negative feelings such as anxiety, anger, and sadness. Compas, Champion, and Reeslund (2005) claimed that traumatic events, chronic conditions, natural and human disasters, and neighborhood violence led to a risk of psychopathology in adolescents. According to Packard (1999), stress deprives students of their sense of control and security and, hence, weakens their ability to cope with daily problems. The most common of these problems relates to school (e.g., bullying by peers, problems with teachers, and academic difficulties) and interpersonal relationships (e.g., conflicts or problems with parents,

siblings, and peers). As one researcher indicated, it is not the experience of stress per se that is harmful; rather, it is the failure to cope adequately with stresses that create the negative impact (Geisthardt & Munsch, 1996). Stress is indicative of an imbalance between the individual and his or her environment and the feeling or belief that something is at stake (Seiffge-Krenke, Aunola, & Nurmi, 2009). Wiesman (2012) said that as adolescents move into high school, their interest and motivation levels decline. In addition, he added that since adolescents' values and beliefs decline as they get older, it is imperative that their ability to motivate themselves becomes their own desire. Adolescent goals must be based on their inherent desire to learn and do well in school (Wiesman). According to Sawatzky et al. (2012), self-efficacy is recognized widely as the ability to initiate coping strategies and assist adolescents in managing stress successfully when faced with a stressful encounter.

Topic

According to the American Psychological Association's 2010 "Stress in America" survey, Americans generally recognize that their stress levels remain high and exceed what they consider to be healthy. A significant amount of evidence indicates that stress may stem from psychological, biological, and/or social causes (Aldwin, 2007). Jaser et al. (2005) posited,

> In the environmental model, stress is defined as external to an organism, including threats of immediate harm or aversive environmental conditions. Stress of this type is typically measured using stress inventories, which are checklists of events believed to be taxing to an individual. External stress has been linked to such negative outcomes as anxiety and depression. (p. 273)

Schmeelk-Cone and Zimmerman (2003) noted that external stress has also been linked to

academic underachievement in adolescents. Drawing on the work of Aldwin (2007), stress is highly relevant to psychosocial models of adaptation. This effect at times can activate a positive or negative response in adolescent behavior (Aldwin). Simply stated, stress has an important function in adolescent development. The researcher furthermore indicated that stress is indicative of an imbalance between the individual and his or her environment and that something is at stake (Seiffge-Krenke et al., 2009).

Seiffge-Krenke et al. (2009) indicated that identity concerns, future goals, career, and education were types of stress that impact health, academics, and relationships within adolescents (Seiffge-Krenke et al.). One factor of this impact resulted from adolescents' inherent desires to learn and the influence of stress on their intrinsic motivation levels (Wiesman, 2012). According to de Anda (1997), "stress experienced by adolescents is part of the normal developmental process; the degree to which present-day adolescents are exposed to stressors is greater in number and seriousness than earlier generations" (p. 1). This daily stress results in academic and behavioral problems (Hall & Torres, 2002). Hall and Torres (2002) also stated that this stress caused increased levels of suicide, anxieties, and difficulties in life which can lead to mental health problems.

Joosten, Bundy, and Einfeld (2009) defined intrinsic motivation as doing something because one wants to, an inherent satisfaction which is highly autonomous. Dawes and Larson (2011) said it best when they quoted this motivation as being a psychologically engaged opportunity where adolescent attention is motivated on completing a task and being completely aware and absorbed in the activity. Stress affects academic performance in students; therefore, if students develop stronger levels of self-management self-efficacy, they could decrease the effects stress has on their academic performance (Sawatzky et al., 2012). Students could also use various types of support

systems. These systems may include, but are not limited to, church, school clubs, nonschool extracurricular activities, Boys & Girls Clubs, Scouts, and strong relationships with significant adults outside of the classroom.

Hall and Torres (2002) indicated that many factors can impede academic performance; however, schools and primary care facilities can serve as hubs where a wide variety of services can address the needs of all youth. Researchers have also identified that programs can have multiple components that target the relationships of youth with significant adults (Hall & Torres). As stated by Zimmer-Gembeck and Skinner (2008), social support can be a positive and adaptive response to stress and should be encouraged among both girls and boys. Another researcher pointed out that support through various social networks, talking to family and friends, is another way to alleviate stress (Plunkett, Radmacher, & Moll-Phanara, 2000). From the literature, as adolescents get older, their peers become a more important source of support for them (Geisthardt & Munsch, 1996).

An Overview of the Research Problem

One study showed that a lack of social resources increases the probability of a stressful life event or heightens its stressfulness once it occurs (Aldwin, 2007). The researcher also indicated that theoretically a person recognizes that there is a problem and then determines what resources are required to deal with that problem (Aldwin, 2007). However, when stressors cannot be controlled–such as chronic illness, death, or the situation emanates from poverty–the ability to cope with such stress may lead adolescents into a state of depression, a conduct disorder, or an eating disorder (Compas et al., 2005). In addition, Plunkett et al. (2000) highlighted that stressors rarely occur in isolation; and examining both frequency of occurrence as well as the perceived level of stress due to

life events can provide useful information to school counselors, family practitioners, and researchers. Research indicates that higher levels of intrinsic motivation would lead to this deeper level of learning (Dawes & Larson, 2011) because once combined with other constraints and extrinsic motivation this could influence an adolescent's level of effort and actions produced (Wiesman, 2012). The purpose of this applied dissertation was to investigate the impact of stress-coping strategies on perceived levels of stress in adolescents and on their levels of intrinsic motivation and self-efficacy.

Deficiencies in the Evidence

There is little research on stress and its impact on adolescents' perceived stress levels and their levels of intrinsic motivation and self-efficacy. Ample research exists on stress and its impact on adolescents' lives in various capacities. Therefore, this case study attempted to produce a correlation in the relationship between adolescents' perceived stress and the stress-coping skills needed to address the various stressors that affect adolescents. An enormous amount of research is available on stress-coping strategies that adolescents can incorporate into life-coping interventions.

Audience

Families are affected by adolescents who cannot control or cope with levels of stress. Adolescents' inability to cope with stress affects students' well-being, friendships, family relationships, and everyday life style. This study provides adolescents and their families with coping strategies and ideas to improve lifestyles and academic success.

Purpose of the Study

The purpose of this study was to investigate the impact of stress-coping strategies on perceived levels of stress in adolescents, on their levels of intrinsic motivation, and self-efficacy. The design was comprised of a mixed-method design including a

presurvey of the students involved on their perceived levels of stress, intrinsic motivation, and self-efficacy. The presurvey was taken before students were exposed to the researched-based strategies. The school-based therapist led students through an open discussion prior to taking the postsurvey months later. Participants took a postsurvey at the end of the study to identify a correlation, if one existed. The students involved were a representative group of diverse students from a large urban school system in the State of North Carolina.

Adolescence is a stressful time for many youth (Howard & Medway, 2004). Adolescents experience events that may be stressful to one individual and pose no stressful impact on another under the same circumstances (Aldwin, 2007). Research specified that stress is not the nonspecific result of damage; it is simply nervous tension that cannot be avoided (Selye, 1973). Implications identified that positive coping includes communication and seeking support from others (Howard & Medway, 2004). Teens can benefit from engaging in several key coping strategies (Wadsworth, Wolff, Santiago, & Moran, 2008). Coping with stress can be achieved by providing opportunities for students to talk about what they have in common with peers without feeling different. In addition, educating pupils about the effects of stress gives students a positive way of coping (Robson & Cook, 1995). One of these methods is getting youth motivated in activities and providing conscious experiences that increase their engagement levels (Dawes & Larson, 2011). On the other hand, Weisman (2012) revealed that "external motivators used by classroom teachers impedes learning and undermines intrinsic motivation" (p. 105). Coping is an active purposeful process by which an individual responds to stimuli appraised as taxing or exceeding his or her resources (Seiffge et al., 2009). Seiffge et al. (2009) showed that when adolescents

utilize stress-coping strategies, they improve overall academic performance.

Definition of Terms

For the purpose of this study, the definitions of terms are specified below.

Appraisal. Also called *cognitive appraisal*. An assessment or evaluation that affects one's reaction to potentially stressful events.

Coping. An individual's attempt to master demands that he or she appraises as threatening or challenging. Coping does not imply a successful outcome.

Emotion-focused coping. A category of coping mechanisms that involves managing the emotional responses to a stressor. Some examples include emotional distancing, denial, reappraisal, and drug or alcohol use. Contrast with problem-focused coping.

Primary appraisal. An evaluation or assessment of the stressfulness of an event.

Problem-focused coping. A category of coping mechanisms that involves attempts to change the stressor. Some examples include planning, confront coping, active coping, and restraint coping. Contrast with emotion-focused coping.

Secondary appraisal. A self-evaluation or assessment about whether one is capable of coping with an event (stressor) and how one will cope with the event.

Social support. Types of support people receive from other people. These can include emotional support, informational support, and tangible support.

Intrinsic motivation. Doing something because one wants to; an inherent satisfaction which is highly autonomous.

Self-efficacy. The belief in one's ability to cope with a situation.

Research Questions

1. What is the impact of stress-coping skills on perceived stress levels in adolescents?

2. What is the impact of stress-coping skills on levels of intrinsic motivation in adolescents?

3. What is the impact of stress-coping skills on student self-efficacy?

Conceptual Framework

An extensive examination of the literature indicated coping strategies that support well-being in the lives of adolescents when youth feel they can handle the demands of school when going through a stressful encounter. Colten and Gore (1991) said that puberty is an attribute to the student's emotional state and change in hormonal outcome. Likewise, Zeidner and Endler (1996) reported the results of studies dating back to the early 1970s where measures were based on developed scales and a reaction to life-threatening or traumatic events of adolescents. Students are stressed as they enter a high school environment. Adolescents go through a daily routine full of stressful encounters related to academics, peer relationships, home life, and identity and self-image complexities. Student behavior determines their level of self-efficacy and, when influenced by their environment, can determine if they can effectively deal with a stressful situation or demand. When students are confident, they reveal less stress, and internally the confidence provides them with motivation to challenge their academics and to handle the stress with strategies that effectively help them deal with a situation by exhibiting a state of control over the situation. These encounters can cause physical and mental changes in an adolescent's life. Stress coping strategies are offered to give

students an opportunity to have and maintain a balanced school life.

Chapter 2: Literature Review

Introduction

There are numerous strategies that exist that can help adolescents cope with stress. Students have a tremendous amount of stress related to their school environment that can impede or affect their academic performance. The pressures include passing tests in school, peer pressure, and pressures to succeed, make good grades, and to have meaningful friendships. School is one of the greatest causes of stress in a teenager's life. School work becomes too difficult and affects the relationships these adolescents have with their parents, principals, and teachers. Research found that stress increases adolescents' tendency to lose interest in self and turn to negative behaviors such as becoming pregnant, abusing drugs and alcohol, and having social problems with their peers. Some stressors are out of the students' control such as human disasters, chronic family illness, poverty, or even neighborhood violence. However, these stressors still intensify these symptoms causing adolescents to exhibit feelings of sadness and fear or even to consider suicide.

Adolescents need to develop ways to cope with their stressful encounters. Research showed there are positive and negative responses to coping (Howard & Medway, 2004). Communicating and seeking help from others along with problem-solving, taking action and seeking support (Howard & Medway, 2004; Sontag & Graber, 2010; Zimmer-Gembeck & Skinner, 2008) are positive ways adolescents deal with stressors. Coping involves a control of engagement responses to change the source of stress or one's emotional reaction (Jaser et al., 2005). Sontag and Graber (2010) included that coping is an effort to manage specific external and internal demands of stress.

Coping is defined as a conscious, voluntary process that includes attempts to manage emotions and thoughts, regulate behavior and physical arousal, and act on the environment to decrease a source of stress (Wadsworth et al., 2008). "Stress is an inevitable aspect of life and what makes the difference in human functioning is how people cope with it" (Lazarus & Folkman, 1984, p. 21). This study focused on the implementation of six specific stress-coping strategies and the impact they have on a student's ability to function at school in a positive manner by decreasing their perceived levels of stress and increase their levels of motivation and self-efficacy.

Coping Styles

Coping styles are essential to continued success in school. According to Lazarus and Folkman (1984), coping styles is a broad term used for relating coping actions to particular types of stressors that people undergo. Frydenberg (1997) found that the terminology for coping styles was quite confusing and that coping actions, coping strategies, coping tactics, or even coping resources were terms that were used interchangeably. Another study showed that coping styles were other ways of relating an internal coping resource to a coping outcome (Colten & Gore, 1991). For example, research has shown that active coping and engagement coping are categorized as styles with various strategies linked to them (Clarke, 2006).

Jorgensen and Dusek (1990) studied the difference between good coping styles and bad coping styles. Research indicated that good coping styles include exercise or use of a cognitive activity such as seeing the good side of the situation (Jorgensen & Dusek). This same research indicated that bad coping styles include students who blamed themselves or exhibited negative behaviors such as participating in substance abuse or avoiding people (Jorgensen & Dusek). This study related adolescent coping styles to

psychological adjustment (Jorgensen & Dusek). In particular, the research showed that based on four studies conducted, coping styles such as solving the problem, referencing others, and avoidance (non-productive coping) were strategies used by teachers and psychologists to help students. If coping-strategies were implemented early enough, these strategies proved to be successful (Frydenberg et al., 2004).

In addition, Suldo, Shaunessy, and Hardesty (2008) identified coping styles as a negative or positive appraisal. In their study, they reflected on the correlation between perceived stress and coping styles and productive coping styles based on the stressor identified (Suldo et al.). In particular, the research followed up with results from a t test and focus groups to report the use of common coping styles by all students (substance use, avoidance, rebellion against authority); however, advanced-level students had a unique way to cope with rebellious behaviors by staying focused on their studies and creating ways to solve their individual problems (Suldo et al.).

Coping Strategies

Students perform better in classes when they are focused and not distracted due to stressors. Students have a difficult time separating strategies or determining which strategy is best to use, especially when strategies impact them at various times when they are going through a stressful encounter. Although most strategies do not happen in isolation, some strategies better complement each other and exist on separate ends of the continuum. Emotion- and problem-focused coping both appear at the same degree when adolescents experience low stress. As stress levels move from low to moderate levels, problem-focused coping is dominant, and as stress levels move from moderate to high, emotion-focused coping prevails. This is partly due to the level of anxiety, an over concentration on the issues, and a defensive and less attentive problem-solving skill set

(Lazarus & Folkman, 1984).

Lazarus and Folkman (1984) identified the multiple functions of two broad stress-coping strategies: problem-focused coping and emotion-focused coping. These strategies have numerous coping behaviors classified under each of them, including avoidance-focused coping, which is a type of emotion-focused strategy. However, Ebata and Moos (1994) defined avoidance coping as a type of emotion-focused strategy. This strategy is used by more distressed adolescents and involves cognitive attempts to deny or minimize the stressor. The strategy has behaviors linked to it that are fundamental to adolescent development, as some of the behaviors involved include being disengaged, creating distractions, or denying the problem or stressor. Simply stated, avoidance-focused coping avoids thinking about the stressor influenced by negative life events (Ebata & Moos, 1994).

Two coping behaviors of emotion-focused coping–implementing emotional support and reducing stress through limiting tension–recur. Emotion-focused coping produces positive and negative responses. Reacting emotionally (Brdar, Rijavec, & Loncaric, 2006) and venting (Horwitz, Hill, & King, 2011) were categorized as negative behaviors, whereas seeking comfort from friends (Brdar et al., 2006) and implementing humor (Doron, Stephan, Boiche, & Le Scanff, 2009) were examples of positive coping behaviors. For example, research has shown that emotion-focused coping limits goals and directed efforts as it involves negative responses such as avoidance, dwelling on negative emotions, or denial (Colten & Gore, 1991; Hobfoll, 1998). For adolescents to move forward, they have to learn to relax and maintain a nondefensive attitude by keeping their cool, according to Monat, Lazarus, and Reevy (2007). The study concluded

that emotional social support, instrumental social support, positive interpretation, using restraint, using humor, and maintaining emotional balance were all positive attributes that could be used by adolescents to appraise stressors in their lives (Monat et al., 2007).

On the other side of the continuum were problem-solving strategies which mimic an approach/active coping mechanism (Hobfoll, 1998). Findings suggested this strategy to be an action-centered approach using a reconceptualized approach to minimize effects of stressful situations (Zeidner & Endler, 1996). An extensive examination led researchers to study this strategy, which was conceived to be a healthy approach for youth to help achieve goals, learn to plan, and seek support (Hobfoll, 1998). The researcher reported that the situation changed by using instrumental actions even though the outcomes were not always successful; it was the attempt to deal with the situation that counted even if it could be detrimental to the student's situation (Zeidner & Endler, 1996). The literature suggested that practicing responses, asking questions, and using negotiation skills by actively planning helped suppress extensive stressors in these adolescents (Monat et al., 2007). Tenenbaum, Varjas, Meyers, and Parris (2011) studied adolescents' ability to cope and use strategies effectively. This study determined that problem-focused coping replicated emotion-focused coping so consistently that several behaviors overlapped, such as seeking social support, distancing, and internalizing the behavior as reported by adolescents who participated in this study (Tenenbaum et al.).

Avoidance-focused coping strategy represents more negative consequences than positive consequences but can be considered a good intervention for short-term use in dealing with stress. Themes that fell under this strategy, according to research, mainly focused on denial and avoidance or behavioral disengagement as a measurement of coping with stress. It gave adolescents a psychological breather at times by allowing

them to escape from the stressful situation, using wishful thinking, denial, self-distraction, or mental disengagement (Monat et al., 2007; Zeidner & Endler, 1996). On the other hand, studies proposed that for some youth this led to the use of drugs and alcohol when trying to avoid their stress using mental and behavioral disengagement, representing a dysfunctional coping tactic (Monat et al., 2007). Monat et al. (2007) reported in their findings that students exhibited a temporary disengagement from problems which could be positively tied to concurrent distress.

Coping Behaviors

A variety of terms are used by research to identify coping behaviors. Research does not classify these terms exactly, and therefore the terms are grouped into themes to lead the discussion for this literature review. Certain behaviors are necessary for teenagers to effectively cope with stress. The behaviors focused on fell under three different strategies: problem-focused, avoidance-focused, and emotion-focused.

Within these three strategies were behaviors that made students use their cognitive abilities, such as problem-solving skills and implementing active coping skills, to deal with stress. When students exhibited implementing emotional support by talking to someone, seeking comfort or reducing stress, these were identified as emotion-focused coping behaviors. Behaviors falling under avoidance-focusing coping involved denying problems, avoiding interacting with situations, and using behavioral disengagement.

Research of adolescents' lifestyles in relation to their academic performances leaned towards a strong sense of completion (Lazarus & Folkman, 1984). Students were documented in setting values and beliefs based on the rewards they obtained related to their ambition and achievements (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) further reported that students tried to balance their egos, attitudes, and their

abilities to bring reality and their inner strivings together. However, Jorgensen and Dusek (1990) said that students had to be well-adjusted to find the effort to reduce stress and help them resolve their problems by engaging in strategies that impacted their social and academic environment. Frydenberg (1997) said that these coping styles, when implemented, allowed adolescents to remain focused and relaxed, in control, and socially connected, which allowed them to solve problems effectively. In particular, students able to use problem-focused strategies were perceived as following a healthy model (Hobfall, 1998).

Behaviors identified under problem-focused coping were skills that allowed students to do better in school, make better choices, prepare and plan effectively by setting goals, and getting away from their problems. It also included implementing some type of physical activity, confronting problems, changing their environment, and managing stress by actively talking or identifying support systems in the form of a person to talk the problem out with or reflecting on the issue. Brdar et al. (2006) determined in their study that there is a correlation between goal-oriented and problem-solving strategies. In their study, trained researchers randomly selected students from 11 secondary schools by completing the coping scale and goal orientation questionnaire (Brdar et al.). The coefficient Cronbach computed for each of the five coping dimensions significantly identified a relationship to school achievement and coping strategies (Brdar et al.). Brdar et al. also said that motivation effects on school achievement are mediated through coping strategies such as setting goals, solving problems by seeking support from adults, and actively responding to stressors by adapting to the situation.

In their empirical study, Monat et al. (2007) reported the impact of stress on students on their final exams and the relationship to stress which was decreased by

students implementing an active coping behavior which involved controlling the situation by adapting to the stressor. This behavior is also identified by researchers as a problem-focused behavior. The research of Clarke (2006) stated that students had to learn to manage a stressor or the circumstance surrounding the stressor by using active coping behavior because it linked to a healthy adjustment phase. Suldo et al. (2008) proposed that coping moderated the relationship between perceived stress and mental health even among high-achieving students.

Further research in 2010 by Shaunessy and Suldo reported from self-reported student surveys and focus groups the relationship between gifted students in an International Baccalaureate (IB) program and high-achieving and nongifted students in the IB program and the students' experience of perceived stress and use of coping behaviors between these controlled groups. A perceived stress scale was used and a t test indicated that students in the different groups of high-achieving programs and regular programs both used similar positive appraisals, negative avoidance, and family communication strategies to cope with stressors. The students in this study actively used problem-focused strategies and behaviors that were more hands-on and deliberately addressed their problems. Behaviors involved focusing on work, completing assignments, task and time management, and seeking social support from family and friends (Shaunessy & Suldo, 2010).

A positive correlation of the use of active coping behavior as a strategy to improve student academic achievement during examinations was determined by Doron et al. (2009). The study examined the use of problem-focused strategies that students used in an academic setting. The multiple regression analyses revealed the beliefs of the students' abilities and their perceptions of using coping strategies to control their own

academics. Students who volunteered to participate in this study confirmed that coping behaviors vary as a function of the student's beliefs about their perceptions to control the environment even in early college. The study recognized that some of the correlations were generally low, but the results suggested an instrumental impact for females reporting greater use of strategies than males, even though gender effects were not the main focus of the study (Doron et al.).

Additional research completed by Sung (2011) said that students having academic concerns in school had the most pressure with being burdened with difficult studies and compulsory school activities. A descriptive analysis and one sample t test reported results from the 354 students who completed the questionnaire to measure self-concept and coping skills. Results determined that female students from Korea most frequently used seeking guidance and problem solving, which were highly correlated with self-concept, to address coping with stressors (Sung). Sung also suggested that these younger female adolescents had to learn to adapt to developmental crisis and to learn to use logical analysis. This problem-focused strategy was identified as another way to implement approach coping in order to support the theory that the use of mature coping skills by female adolescents reflects their high self-concept levels.

A more recent study conducted in 2011 by Tenenbaum et al. related approach coping behavior as a strategy categorized under problem-focused behaviors that can be used by school children to combat the increase of bullying in schools that affect students' academic performances. The study emphasized students' perceptions of how they cope and their perceived effectiveness of their chosen coping strategies (Tenenbaum et al.). Interviews conducted and recorded were based on selections of participants made by school personnel. Detailed notes from the researcher of participants indicated again that

students using problem-focused strategies included behaviors that made students think, resolve problems, and directly address the problem from data revealed in a coding hierarchy and a separate coding for perceived coping efficacy. Overall results indicated that most strategies were ineffective in reducing bullying problems; however, students primarily used problem-focused strategies or multiple strategies simultaneously (Tenenbaum et al.).

A final comparison of the use of behaviors classified as problem-focused strategies was used by Horwitz et al. (2011). The study focused on coping behaviors and the relationship to depression and suicide in adolescents. A significant correlation between older age adolescents and the use of active coping predicted that problem-focused coping was not a significant predictor for depression in adolescents; however, the t-test analysis showed a difference between males and females of depressed teens. The test indicated that less-depressed teens used problem-focused strategies and behaviors such as active coping, planning, and instrumentally implementing a support system (Horwitz et al.) as positive ways to deal with their stressors.

The second categories of coping strategies examined were emotion-focused coping. These behaviors identified by researchers represent a variety of ways to reduce stress which include, but are not limited to, implementing emotional support and reducing stress through limiting tension. Implementing emotional support can involve talking about emotions with someone, seeking comfort from others, or working on emotions by using forms of humor or even anger to release tension. Students can also reduce stress by limiting tension by restraining or reducing overwhelming reactions to stressful encounters and by controlling emotional behaviors and frustrations when goals seem unattainable (Brdar et al., 2006).

Emotional-focused behaviors have led students to maintain an emotional balance in times when adolescents used a behavior because a source of the existing stress was unclear. A downfall to using emotion-focused behaviors was identified by research as not being a positive indicator for reducing stress when students practiced the same behaviors too often instead of dealing with the stressor (Monat et al., 2007). However, in the findings reported by Doron et al. (2009), they said that students completing exams found it important to seek social support or to vent their emotions in order to deal with the stress.

The literature indicated through the work of Suldo et al. (2008) that laughter, reducing workload, and seeking diversions were additional emotion-focused behaviors that students used to alleviate negative emotions immediately, especially among gifted and high-achieving students. The high-achieving students who participated in this study found that they had particular preferences when dealing with academic stress and required the expertise of teachers and counselors to recognize their ability to implement these positive coping behaviors (Suldo et al.).

When students do not have positive behaviors to use, these students can fall into a state of depression, as indicated by the research of Horwitz et al. (2011). Horwitz et al. (2011) said that from using several independent predictors of depression scores they concluded that depressed teens used more emotion-focused behaviors than problem-focused behaviors. The correlations used in this study measuring depression and coping behaviors reported a significant correlation between older age students and their use of emotional support. Emotion-focused behaviors counted for 28% of the variance in the model representing depression. The study also concluded that implementing positive coping skills were instrumental in combating teen depression and suicidal ideation

(Horwitz et al.).

A more recent study broke the behaviors of emotional-focused coping into several subcategories. Several behaviors were mentioned numerous times as they addressed specific coping issues of students involved in bullying experiences that affected their academic performance (Tenenbaum et al., 2011). Students said in their semi-structured interviews that talking to a friend or relative about the bullying incident helped to reduce emotional tension. This strategy allowed students to receive emotional support on how to deal with a specific stressor. However, some students tried to hide their feelings and keep their emotions to themselves as a way of dealing with the stressful encounter coming from being bullied (Tenenbaum et al., 2011). From numerous conversations with students, Tenanbaum et al. (2011) determined that students who let off steam, tried to calm themselves down, attempted to yell at someone, or took deep breaths found those behaviors to reduce their emotions from an emotion-focused coping perspective.

One last strategy that played an important factor in adolescents' abilities to cope was avoidance-focused coping behavior. In contrast to emotion-focused behaviors, avoidance-focused behaviors involve more specific levels of avoidance, denial, and behavior disengagement. Brdar et al. (2006) said that boys typically use this type of behavior more than girls; however, overall, it is considered a behavior that depends mainly on the situation. As stated earlier in this section, themes were used to identify behaviors under this specific strategy. Behaviors falling under this category resembled avoiding interacting with a task or situation, giving up, forgetting the stressor exists, denying the stressor, blaming oneself, and many forms of maladaptive coping and being disengaged both mentally and physically by checking out (Brdar et al., 2006; Doron et al., 2009; Horwitz et al., 2011; Monat et al., 2007) .

Lazarus and Folkman (1984) indicated that many important contributions have been made to stress research with one of those being the systematic investigation of the relationship between coping styles and adaptation outcomes. These studies had great theoretical potential because of the opportunity to measure and to classify people in order to make predictions about how people behave and cope when they encounter a stressful situation (Lazarus & Folkman). The ability to choose a coping style for students with controllable stress was an automatic process, not an effortful response made by students, and served as a control mechanism (Lazarus & Folkman). However, Lazarus and Folkman also factored in those unsuccessful or less successful efforts to deal with stress, called a defense, because these efforts also equated with the ability to adapt successfully to a situation.

Coping behaviors examined fell into two categories: health related and academic related. A review of the literature revealed that when students lost control, they would be emotional (health related) or experience a fear of failure (academic related) (Lazarus & Folkman, 1984). The study showed that stress in relationship to adolescent health had to fit a certain degree for students to be able to have control over their specific stressor (Lazarus & Folkman, 1984). One factor mentioned in the research was the behavior of reducing tension by venting or using negative emotions (Jorgensen & Dusek, 1990) and was identified as an avoidance strategy which was empirically associated with the students' inabilities to cope.

Hobfall (1998) also indicated that cultural and historical factors fell under his theory of adaptation which showed that these factors had a major contribution in the behaviors of students as the range was always dependent upon the context of the stressful situation. Primary control involved a direct change of the stress source (Jaser et al.,

2005), whereas a secondary engagement control required that students adapt to the actual stressor by using a coping style (Jaser et al., 2005). This secondary control involved implementing cognitive restructuring, acceptance, or even disengagement coping (denial, wishful thinking, or avoidance behavior) (Jaser et al., 2005).

Hobfoll (1998) suggested that teenagers begin to fantasize about the perfect role model when faced with adversity. Another factor defined by Frydenberg et al. (2004) stated that there were outsiders, such as psychologists, community stakeholders, and parents, looking for schools to be responsible for developing programs and providing resources to help students develop some resilience or coping skills as identified in their study. This study, delivered to a school based on the Best of Coping (BOC) concept, focused on teaching youth what not to do as well as what to do to get through their individual issues (Frydenberg et al.).

Coping behaviors can also be developed in the context of life skills and training provided in a school setting as defined in the research by Frydenberg (2004). Clarke (2006) emphasized the need to help adolescents seek social support and communicate in an assertive manner. He further examined how students can learn to improve their coping skills in order to function appropriately in a school setting and suggested that the school had to look at refining the curricula to produce healthy functioning students as outlined in his numerous qualitative reviews (Clarke). The data suggested that students are capable of managing academic demands without creating an imbalance between social functions when appropriate programs are provided to high-academic students (Suldo et al., 2008). In essence, students functioned better academically when there were fewer external problems, and they were able to maintain their normal reaction to a situation by avoiding stress altogether when stress was out of their control, which leads to

the importance of identifying favorable strategies to handle these stressors (Clarke).

Strategies Indicating Well-Being

Various coping strategies indicate well-being. If well-being suffers, academics suffer. Lazarus and Folkman (1984) indicated that strategies may occur concurrently and depend on the situation and numerous other factors that determine the outcome, since most adolescents' situations are multidimensional. A review of the literature reported that problem-focused coping efforts incorporated social support systems, which promoted valuable cognitive and interpersonal skills among adolescents (Colten & Gore, 1991). They also found that these processes were a part of a larger system of perspectives which required attention to individual and varying levels of social interactions for students (Colten & Gore, 1991).

Likewise, Aldwin (1994) found that problem-focused coping decreased the likelihood of stressors recurring in the future when adolescents were able to positively relate to a feeling of mastery when handling the specific stressor with a coping strategy. Additionally, this research said that not every student learned to cope; however, as age increased, students were able to learn which strategy worked in a given situation and, therefore, used a differentiated context specific action as indicated in problem-focused coping techniques (Aldwin). Zeidner and Endler (1996) said in their *Handbook of Coping* that social relationships act as a buffer to manage stressors for adolescents. Theorists saw problem-focused coping as having positive effects as it managed the threat on student well-being, and on the same scale emotion-focused represented a positive effect when students did not use it as avoidance but to maintain their emotional balance (Zeidner & Endler).

It was further evidenced by Hobfoll (1998) that problem-focused and emotion-

focused are not opposites of each other; however, they should be taken as sitting on opposite sides of the continuum based on an active versus passive response. The problem-focused model helps achieve healthy goals, incorporates active coping, planning, seeking support, and retrain coping as identified in two separate studies (Hobfoll; Zeidner & Endler, 1996). The findings indicated that the problem-focused model has positive potential to generally reduce stress if active coping is involved in the process (Hobfoll; Zeidner & Endler, 1996). However, Hobfoll revealed that the limitation that existed in this study was the ability to measure what students were doing during the actual problem and situation. Researchers found that emotional-focused approaches represented a more private environment where adolescents tend to hide their personal feelings and thoughts. However, this was seen as a positive approach to well-being when followed by an unsuccessful attempt to adapt to that negative process by hiding feelings (Hobfoll).

Frydenberg (2002) designed a program to help adolescents cope with daily stress. "The Best of Coping Program" focused on self-efficacy increasing psychological control and influencing relationships (Frydenberg). The longitudinal study concluded that sex and age were major considerations when determining a strategy and that exposure to stress actually indicated well-being as it promoted healthy development rather than avoidance (Frydenberg). The results of another more recent study indicated that well-being was part of a benefit when combating strategies (Monat et al., 2007). This study used a variety of coping inventories which revealed that problem-focused approaches gave youth an ability to do something about the problem as well as resources to handle the problem (Monat et al., 2007). Problem-focused strategies furthermore produced less anxiety and distress among youth and were more adaptive in situations to manage the

threat by active coping which was indicated as being generally more effective than emotion-focused strategies (Monat et al., 2007).

Strategies Not Indicating Well-Being

In contrast, emotion-focused coping strategies represent defensive processes in many of the indicated stressful encounters of adolescents (Lazarus & Folkman, 1984). The research of Lazarus and Folkman (1984) outlined the ability for adolescents to reappraise some of their emotional-focused behaviors, whereas other behavior was defined as a self-deception type feature or a representation of reality distortion not indicating an existence of well-being. Findings suggested that students evidenced a reduction in cognitive function caused by a threat during which it was hard to implement any existing problem-solving resources (Lazarus & Folkman). To further build on this idea, Aldwin (1994) found that emotion-focused coping was only useful for adolescents to use for a specific short timeout strategy and when used consistently created by a distraction of the problem. Leading adolescents to decide to escape or use a maladaptive coping strategy representing an avoidance-coping approach is not appropriate for well-being (Aldwin).

Significantly, the study found emotion-focused coping representing an internal technique for some adolescents who took time to master the adjustment and, therefore, found them relying more on behavioral emotion-focused coping impacted by their earlier chaotic and stressful state, possibly involving substance abuse or turning to negative emotions (Aldwin, 1994). One study showed avoidance coping and emotional focus (entailing avoidance) representing similar outcomes (Zeidner & Endler, 1996). The study showed that students associated with psychological and distress behaviors, oriented fantasies, or a series of withdrawal patterns, denial, and correlated additional depression

as self-blame increased due to the inability to control the stressor (Hobfoll, 1998; Zeidner & Endler, 1996). One of the strategies found the emotion-focused coping helpful for adolescents if they accepted the situation and looked at it from a positive stand (Hobfoll, 1998). However, when students incorporated avoidance and denial it led to dwelling on negative emotions leading to more ineffective approaches (Hobfoll, 1998). In particular, Hobfoll (1998) found that emotion-focused coping when repeated by adolescents was associated with a negative psychological existence and negative well-being.

Summary

There were gaps in the research that identified specific strategies that students could use when under stress. Students tried avoidance coping all the time when they wished the stress would just go away. This reduced immediate anxiety if implemented properly but resulted in greater stress long term. A problem-focused approach was identified by research as indicating positive effects, while emotion-focused strategies indicated negative effects when pertaining to psychological outcomes.

Parents and adolescents must engage in appropriate coping behaviors and strategies to help support positive psychological well-being. These strategies may be dependent upon the life stage of the adolescent; and as adolescents mature and the stress levels are adjusted, the strategies that were most effective had be adjusted as well. There should be an increased focus on the issues and an ability to problem solve that would help to manage the stress levels of adolescents. The literature supported the idea that the more adolescents are able to implement these coping strategies, the better equipped they are to deal with stressors. It is important that the coping strategies are identified early and made specific to the adolescent. This will help to identify the coping strategy to best support an academic response. With the variety of coping strategies available to adolescents, very

little research has been done to determine what strategies best fit specific situations and their impact on adolescents' perceived levels of stress, motivation and self-efficacy.

Chapter 3: Methodology

Introduction

Research has found that stress is seen as a combination of an adolescent's environment and individual resources available to him/her (Aldwin, 2007). This study used a mixed-method design to assess perceived stress-coping strategies in adolescents. A pre/postsurvey design was used to test the hypothesis. Qualitative and quantitative data sources were used to support what the researcher gathered in the form of numerical data and narrative information from the participants utilizing the strengths of both qualitative and quantitative research (Creswell, 2009). This chapter represents the research methodology, the participants, instruments used, procedures for collecting the data, and limitations that hindered the study.

Research Questions

1. What is the impact of stress-coping skills on perceived stress levels in adolescents?

2. What is the impact of stress-coping skills on levels of intrinsic motivation in adolescents?

3. What is the impact of stress-coping skills on student self-efficacy?

Participants

The target population for this study was a select number of students identified for special services from a diverse school district in North Carolina. The school district has both small and large high school populations with the average student population ranging from 600 students more than 1,500 students per high school. The students ranged in age from 14 years of age to 19 years of age. The students chosen for this study were from a

large diverse high school setting. The ethnicity of students at this school is 37% African American, 45% White, 15% Hispanic, and 3% other, including but not limited to Asian, American Indian, and Multiple Ethnicity. The Special Education population makes up 7% of the school population, 16% are Academically Intellectually Gifted, and 8% are Limited English Proficient according to the most recent school profile report card (2011-2012).

The students were chosen to participate in this study because they represented a convenience sample. All students identified for special services at the school were invited to participate. Only those students who returned their signed consent form by the approved deadline were eligible to participate in the presurvey and postsurvey. Open discussions were held after the implementation of the strategies by the school-based therapist. For the purpose of this study, students identified for special services were students who were already referred to receive counseling services from the school due to academic, behavioral, or emotional concerns.

Instruments

The instruments used in this study were combined into one online survey for students to complete at one sitting, representing the presurvey and then again at the end of the study representing the postsurvey (Appendix A). The perceived stress scale is a 10-item instrument which asks participants questions about their feelings and thoughts during the last month. The instrument can be found in *The social psychology of health: Claremont Symposium on applied social psychology* by Cohen and Williamson (1988). According to the developers, the items are easy to understand; hence, it was designed for students with at least a junior high education to be able to understand and comprehend the simple language of each question (Cohen & Williamson). There are four items

written in the positive tense; therefore, the scoring for items, 4, 5, 7, and 8 are all reversed to obtain an accurate overall perceived stress score by summing across all 10 items. The higher the score, the more stress the students perceived they had. The highest score obtainable was 40.

The second instrument used was the Motivation Scale–a 14-item instrument relating to a student's ability to motivate themselves. It is a published scale with copyright held by APA. It can be found in the article by Lockwood, Jordan, and Kunda (2002) in the *Journal of Personality and Social Psychology*. The scale was created on a level from 1 (not at all true) to 11 (very true). To maintain consistency and limit confusion of the students taking the survey, these items were placed on a 5-point interval with a scale ranging from 0 to 4. This model replicated the Perceived Stress Survey (PSS) with a similar direction in the terminology to support student understanding. A single score was created by summing across the 14 items. If a student had a score close to 56, it implied the student had high intrinsic motivation. If a student had a score closer to 0, it indicated low intrinsic motivation.

The third instrument was a brief questionnaire for measuring self-efficacy in youth. It was scored on a 5-point scale with 1 = not at all and 5 = very well. It looked at three main areas of self-efficacy, students' academic, social, and emotional perceptions (Muris, 2001). This Brief Questionnaire for measuring self-efficacy in youth is in the *Journal of Psychopathology and Behavioral Assessment*. This instrument had 24 total statements that can be used in a study. If a student had a score close to 96, it implied the student had high self-efficacy. If a student had a score closer to 0, it indicated low self-efficacy.

Data were collected using a survey that hosted the 48 questions in total. The first

10 questions addressed perceived stress, questions 11-24 addressed intrinsic motivation, and questions 25-48 addressed self-efficacy. There was also a series of open forums held to explore the topic of stress-coping strategies in depth through group discussions. This process conveyed key information about strategies and gathered reliable information from the students in a quick, efficient way to look for supportive information to embed with the qualitative data to be collected.

Items 1-10 in the survey related to perceived stress levels. According to previous researchers who used the instrument, the recommendation for using all 10 items was suggested to obtain maximum reliability (Cohen & Williamson, 1988). The scale assesses the amount of stress in one's life rather than in response to a specific stressor. A presurvey was given to students to obtain a perceived stress score. The score is obtained by reversing the scores of the four positive items and then summing across all 10 items. A Chi Squared Goodness of Fit was used to indicate the distribution of multiple response items in the Likert scale. These items were displayed in contingency tables with a narrative of what was released in the data. There was also an initial analysis of variance displayed in a table to be used as a comparison with the postsurvey.

Items 11-24 in the survey related to motivation levels. Lockwood et al. (2002) revealed that motivation was enhanced when students were encouraged with strategies that matched their regular levels of concern. The scale assessed the amount of motivation and collapsed across all items to create a single index of motivation. A presurvey was given to students to obtain their motivation score. For the purpose of this study, a score of 56 indicated high intrinsic motivation and a score of 0 indicated low intrinsic motivation. There was also an initial analysis of variance displayed in a table to be used as a comparison with the postsurvey. A Chi Squared Goodness of Fit was used to

indicate the distribution of multiple response items in the Likert scale. These items were displayed in contingency tables with a narrative of what was released in the data.

Items 25-48 in the survey related to self-efficacy. According to previous researchers who used the instrument in a correlation with a Children's Depression Inventory, low levels of self-efficacy should produce higher levels of depression (Muris, 2001). The scale items represent perceived capabilities for peer relationships, managing behavior, and coping with negative emotions. For the purpose of this study and to maintain consistency, the scale ranged from 0-4 with 0 indicating never and 4 indicating very often. A presurvey was given to students to obtain a perceived self-efficacy score. The score was based on the scale with 96 being the measure of high self-efficacy and 0 being low self-efficacy. A descriptive analysis was generated in a chart with correlation reliability and a complete analysis of variance. A Chi Squared Goodness of Fit was used to indicate the distribution of multiple response items in the Likert scale. These items were displayed in contingency tables with a narrative of what was released in the data.

After students participated in the strategy implementation phase and the postsurvey, the data were analyzed both using text and numerical data. The data were collected in two phases. The primary data collection was through a survey. The minor secondary process used open forums of participants who took the survey. A mixed-method approach was used to gather the data. Quantitative data were collected first. Both qualitative and quantitative data were gathered a second time following the implementation of the stress-coping strategies to determine if a relationship existed between the presurvey and postsurvey and to what degree. Participants participated in a presurvey followed by the implementation of stress-coping strategies by the school-based therapist. An open discussion and a postsurvey were also administered. During the open

discussion, participants were able to talk about the strategies they used and which strategies were most effective for them. Qualitative data collected were based on the students' perceptions in each category. Students participated in an open-discussion forum with the school-based therapist before completing the postsurvey. The open-ended forum was intended to allow students to discuss their points of view on strategies they used and their opinions about stress coping strategies that worked for them during the data collection period.

The open discussion forum was a semi-structured interview with the interviewer recording the forum discussion using an audiotape along with notes being recorded by the interviewer in the event the equipment malfunctioned. The interviewer mainly focused on recording primary information directly from the students in the study. This allowed the school-based therapist an opportunity to comment on the reliability and value of the data source recorded and studied. A script outlining the questions used was provided. The script had an opening/icebreaker question to gauge student focus. There were four-five primary questions that were required to be asked in the open discussion. The school-based therapist was also provided with probes to use for this series of questions to follow up and ask students more details to responses and to elaborate if necessary. Once interviews were completed, the audiotapes were transcribed to collect and identify recurring themes discussed by the students in their open-discussion forum. A general sense of the information was gathered along with general ideas students said about their impressions related to the strategies they used.

The researcher looked for tone of ideas and created a coding process for breaking down the chunks of material received during the interviews. Segments of text, clusters of similar topics, groups of descriptive words, and categories between interrelationships

were broken into four-five specific themes. This gave the researcher an opportunity to allow codes to emerge during the initial analysis. Codes were used to generate a thematic analysis displayed in a frequency distribution table of the four-five themes representing the major findings in the study using the number of occurrences of the themes and developed into a percent based on the total number of occurrences reported by the students. This embedded process was used to "collect one form of data (quantitative) and have another form of data (qualitative) provide support information" (Creswell, 2009, p. 208). There was a comparison of the findings to understand what students predicted. The information also suggested new questions that needed to be answered based on the frequency distribution information. This allowed the researcher to prioritize the most significant themes used and create a triangulation from these different data sources to determine if the analysis from the frequency distribution held true in the presurvey and postsurvey data. This analysis allowed the researcher to build a justification in the themes and establish validity of the study based on converging sources of data from participants in the accuracy of findings.

All data collected was stored in a safe and confidential manner. Electronic data were stored on a password-protected removal drive. Audiotapes and interview notes were stored in a locked filing cabinet.

Three final correlations were tested using a Pearson correlation analysis and a paired sample t test to compare means from the presurvey and the postsurvey of the three dependent variables to determine if there was a relationship and, if so, how strong of a relationship existed. The relationship between perceived stress and motivation indicated a significant linear relationship, if any, between the two variables. This analysis determined if students with higher perceived stress levels have less motivation. An

examination was also conducted using a Pearson correlation to see if there was a strong negative relationship between perceived stress levels and self-efficacy. This analysis indicated a significant linear relationship, if any, between perceived stress and self-efficacy to determine if students with higher perceived stress levels have lower self-efficacy. The third correlation determined if there was a relationship between motivation and self-efficacy and at what level of significance or degree of relationship exists. This analysis determined if students with higher levels of motivation also have higher levels of self-efficacy.

The significant levels chosen for the Pearson correlations will be $p < .05$ at N-2 degrees of freedom where N represents the number of participants completing the presurvey and postsurvey. The paired sample t test determined whether or not the scores were significantly different from each other after the implementation of the stress-coping strategy lesson. If the values were significant, this analysis indicated that the two scores were different and the stress-coping strategy lesson may have impacted the decrease in stress among students. Values that were not significant indicated that the scores are not significantly different and that the stress-coping strategy lesson may not have impacted the students' perceived stress levels. The focus used diverse populations to better understand this phenomenon or any changes because of the study.

Procedures

Participating students were given a consent form from the school-based therapist inviting them to participate in the study. Students were then asked to return the form (signed or unsigned) the following day to the school-based therapist. All consent forms were copied and kept in a safe and confidential location by the school-based designee. To maintain the anonymity of the participants, they used their randomly generated

NCWise student user number.

Prior to taking the presurvey, students agreeing to participate in the study were given a copy of their consent form reminding them that the survey was voluntary and confidential. The school-based therapist also reminded students that the survey was a part of a doctorate graduate program. With the school-based designee's assistance, students participating in study were given 20-30 minutes to go into an available computer lab to complete the 48-question survey.

Following the completion of the survey, the school-based therapist implemented the research-based stress-coping strategies to the participants. The school-based therapist facilitated an open-ended discussion prior to taking the postsurvey. The postsurvey was repeated in April 2013. Once students completed the survey, they were given a copy of the debriefing form and offered a piece of candy as a token of thanks for participating in the study.

Limitations

The responses to focus group discussions and surveys were based on students' perceptions at that given time and on that day. The information was based on what they wished to share and reflected their ability to communicate thoroughly and specifically with the school-based therapist. Documentation was based on the school-based therapist and his capability to accurately record information and capture the specific content of the information students shared. The therapist had to keep students on track, as outlined by the researcher, in obtaining focus group discussions in clear, uninterrupted opportunities and maintaining the focus of the discussion.

Summary

This chapter represents the participants, instruments, research, methodology, and

limitations of this case study of the impact of stress-coping strategies. The descriptive statistics were used to examine the correlation inferences between the students and the survey they took. The participants were males and females with a total of 50 participants invited to participate in this study. They were surveyed using a presurvey/postsurvey design to determine a correlation using a t-test model between the stress-coping skills and perceived stress levels, stress-coping skills and intrinsic motivation, and stress-coping skills and student self-efficacy using a single score based on the instruments identified in the methodology. Participants were also exposed to a developed stress-coping strategies lesson developed by the researcher based on the research of Lazarus and Folkman (1984), Monat et el. (2007), Zeidner and Endler (1996), Aldwin (2007), and Frydenberg (2004). An open discussion was led by the school-based therapist to capture specific patterns in the qualitative data collected to cross reference with the quantitative data from the surveys in this mixed-method design. The final phase was a Pearson correlation to examine the relationship between perceived stress and intrinsic motivation, perceived stress and self-efficacy, and intrinsic motivation and self-efficacy. This correlation was used to determine the relationship impacting the hypothesis of the dependent variables' relationship to one another.

Chapter 4: Results

Introduction

The purpose of this study was to investigate the impact of stress-coping strategies on perceived levels of stress in adolescents, on their levels of intrinsic motivation, and self-efficacy. The students represented in this study were from a diverse population: 70.7% of the respondents were African-American/Black, 14.6% were White, 9.8% were Hispanic, and 4.9% were classified as other, or mixed racial background. The average age was 16.3 with 54% female respondents and 46% male respondents. Students completed a pre/postsurvey and open discussion with the school-based therapist during the data collection process. This chapter presents an overview of the results in the form of quantitative and qualitative data. The quantitative results are represented in the form of frequency distribution tables of the presurvey and postsurvey data, descriptive statistics for the dependent variables, and finally scale scores, an analysis of a correlation table and t-test results that analyze the relationship between the presurvey and postsurvey and among the three dependent variables. Graphs are also used to give a visual representation of what is listed in the respective tables. The qualitative data were collected and grouped into themes to create a frequency distribution table of the percent of student responses during the open discussions led by the school-based therapist.

Frequency Distribution Tables

Students answered mostly in the "sometimes" and "fairly often" categories when responding to their levels of perceived stress, as indicated in Table 1 of the presurvey responses. The frequencies for responses for motivation and efficacy lay along the lower level of the continuum, representing mainly the "almost never" and "sometimes"

categories, as outlined in Table 2 and Table 3, respectively, for presurvey responses.

Table 1

Frequencies of Responses in Presurvey of Perceived Stress

	Never	Almost Never	Sometimes	Fairly Often	Very	Percent of Positive Percents
Q1 Upset of Something Unexpected	0 0%	3 7.50%	13 32.50%	16 40.00%	8 20.00%	60%
Q2 Unable to control Important Things	0 0%	7 17.07%	13 31.71%	16 39.02%	5 12.20%	51.22%
Q3 Felt Nervous and Stressed	1 2.44%	6 14.63%	12 29.27%	14 34.15%	8 19.51%	53.66%
Q4 Confident to Handle Personal Problems	1 2.44%	9 21.95%	15 36.59%	12 29.27%	4 9.76%	39.03%
Q5 Felt Things Going Your Way	1 2.44%	8 19.51%	13 31.71%	18 43.90%	1 2.44%	46.34%
Q6 Could Not Cope with Things Had to Do	1 2.63%	7 18.42%	18 47.37%	8 21.05%	4 10.53%	31.58%
Q7 Able to Control Life Irritations	1 2.50%	13 32.50%	16 40.00%	7 17.50%	3 7.50%	25.00%
Q8 Felt on Top of Things	1 2.50%	12 30.00%	15 37.50%	8 20.00%	4 10.00%	30.00%
Q9 Angered by Things Out of Your Control	0 0%	7 17.50%	11 27.50%	16 40.00%	6 15.00%	45.00%
Q10 Difficulties Too High to Overcome	2 4.88%	7 17.07%	10 24.39%	20 48.78%	2 4.88%	53.66%

Table 2

Frequencies of Responses in Presurvey of Motivation

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q11 More Time	3	10	12	10	5	
In School Work	7.50%	25.00%	30.00%	25.00%	12.50%	37.50%
Q12 Study Harder	1	14	12	11	2	
Test & Exams	2.50%	35.00%	30.00%	27.50%	5.00%	32.00%
Q13 Spend Less	5	10	18	5	2	
Time Partying	12.50%	25.00%	45.00%	12.50%	5.00%	17.50%
Q14 Extra Effort	4	13	14	6	4	
into term papers	9.76%	31.71%	34.15%	14.63%	9.76%	24.39%
Q15 Keep Up with	2	17	13	6	3	
Reading Assignments	4.88%	41.46%	31.71%	14.63%	7.32%	21.95%
Q16 Procrastinate	3	16	17	2	2	
Less	7.50%	40.00%	42.50%	5.00%	5.00%	10.00%
Q17 Start Studying for	2	16	13	7	3	
Exams before End	4.88%	39.02%	31.71%	17.07%	7.32%	24.39%
Q18 Spend More time	9	12	15	0	3	
in Library	23.08%	30.77%	38.46%		7.69%	7.69%
Q19 Stop Engaging in	3	10	23	3	2	
Social Activities	7.32%	24.39%	56.10%	7.32%	4.88%	12.20%
Q20 Avoid Wasting	5	13	11	5	6	
Time	12.50%	32.50%	27.50%	12.50%	15.00%	27.50%
Q21 Plan to be More	2	17	14	2	5	
Organized	5.00%	42.50%	35.00%	5.00%	12.50%	17.50%
Q22 Avoid Missing	3	10	18	5	5	
Work Deadlines	7.32%	24.39%	43.90%	12.20%	12.20%	24.40%
Q23 Be less casual	4	9	22	3	2	
about school work	10.00%	22.50%	55.00%	7.50%	5.00%	12.50%
Q24 Focus more	3	14	12	6	4	
of studies	7.69%	35.90%	30.77%	15.38%	10.26%	25.64%

Table 3

Frequencies of Responses in Presurvey of Efficacy

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q25 Teachers help when stuck on work	4 10.00%	12 30.00%	13 32.50%	9 22.50%	2 5.00%	27.50%
Q26 Studying when interesting things to do	4 9.76%	16 39.02%	14 34.15%	6 14.63%	1 2.44%	17.07%
Q27 Study a chapter for a test	6 14.63%	14 34.15%	13 31.71%	6 14.63%	2 4.88%	19.51%
Q28 Finishing homework daily	3 7.69%	17 43.59%	10 25.64%	5 12.82%	4 10.26%	23.08%
Q29 Paying attention during every class	2 5.00%	13 32.50%	16 40.00%	7 17.50%	2 5.00%	22.50%
Q30 Succeed in passing all subjects	1 2.44%	16 39.02%	11 26.83%	11 26.83%	2 4.88%	31.71%
Q31 Succeed in satisfying parents with schoolwork	3 7.69%	12 30.77%	13 33.33%	6 15.38%	5 12.82%	28.20%
Q32 Succeed in passing a test	3 7.32%	13 31.71%	16 39.02%	6 14.63%	3 7.32%	21.95%
Q33 Expressing opinion classmates disagree	0 0%	19 46.34%	18 43.90%	3 7.32%	1 2.44%	9.76%
Q34 Becoming friends with other students	2 4.88%	12 29.27%	13 31.71%	6 14.63%	8 19.51%	34.14%
Q35 Ability to chat with an unfamiliar person	4 10.00%	14 35.00%	13 32.50%	5 12.50%	4 10.00%	22.50%
Q36 Work in harmony with classmates	4 10.26%	7 17.95%	19 48.72%	6 15.38%	3 7.69%	23.07%
Q37 Tell others doing something you don't like	5 12.50%	16 40.00%	12 30.00%	4 10.00%	3 7.50%	17.50%

(continued)

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q38 Tell a funny event to a group of children	2 5.00%	18 45.00%	10 25.00%	3 7.50%	7 17.50%	25.00%
Q39 Succeed in staying friends with others	0 0%	11 27.50%	14 35.00%	10 25.00%	5 12.50%	37.50%
Q40 Succeed in preventing quarrels with others	2 5.00%	15 37.50%	17 42.50%	4 10.00%	2 5.00%	15.00%
Q41 Succeeding in cheering self up	4 10.53%	13 34.21%	13 34.21%	5 13.16%	3 7.89%	21.05%
Q42 Succeed in becoming calm when scared	1 2.56%	15 38.46%	16 41.03%	2 5.13%	5 12.82%	17.95%
Q43 Prevent to become nervous	1 2.63%	14 36.84%	20 52.63%	1 2.63%	2 5.26%	7.89%
Q44 Control feelings	7 17.95%	16 41.03%	11 28.21%	2 5.13%	3 7.69%	12.82%
Q45 Give self pep talk when feeling low	3 7.69%	15 38.46%	13 33.33%	6 15.38%	2 5.13%	20.51%
Q46 Tell a friend that you don't feel well	1 2.50%	11 27.50%	19 47.50%	6 15.00%	3 7.50%	22.50%
Q47 Ability suppressing unpleasant thoughts	4 10.00%	20 50.00%	13 32.50%	1 2.50%	2 5.00%	7.50%
Q48 Succeed in worrying things might happen	3 7.50%	16 40.00%	12 30.00%	5 12.50%	4 10.00%	22.50%

The postsurvey for the perceived stress survey items indicated a shift in the continuum representing frequencies in the “almost never” and “sometimes” categories, moving closer to lower stress level, as indicated in Table 4. For example, Item Q1 had 60% of respondents providing positive responses on the presurvey but only 7.32% providing positive responses on the postsurvey. Postsurvey frequencies showed a change

in the pattern of responses chosen by students in the motivation and efficacy selections. The responses in Table 5 and Table 6 showed responses moving to the upper end of the continuum producing higher levels of positive percents for the response items students selected under the motivation and efficacy categories, respectively. For example, Item Q18 had 7.69% of respondents providing positive responses on the presurvey and an increase of 36.59% providing positive responses on the postsurvey for motivation. Item Q33 had 9.76% of respondents providing positive responses on the presurvey and an increase of 48.78% providing positive responses on the postsurvey for efficacy.

Table 4

Frequencies of Responses in Postsurvey of Perceived Stress

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q1 Upset of Something	3	19	16	1	2	
Unexpected	7.32	46.34%	39.02%	2.44%	4.88%	7.32%
Q2 Unable to control	4	22	10	2	2	
Important Things	10	55.00%	25.00%	5.00%	5.00%	10.00%
Q3 Felt Nervous	3	15	18	2	2	
and Stressed	7.50%	37.50%	45.00%	5.00%	5.00%	10.00%
Q4 Confident to Handle	2	3	18	15	3	
Personal Problems	4.88%	7.32%	43.90%	36.59%	7.32%	42.91%
Q5 Felt Things Going	3	8	22	7	1	
Your Way	7.32%	19.51%	53.66%	17.07%	2.44%	19.51%
Q6 Could Not Cope with	2	13	19	6	0	
Things Had to Do	5.00%	32.50%	47.50%	15.00%	0%	15.00%
Q7 Able to Control Life	2	4	20	13	0	
Irritations	5.13%	10.26%	51.28%	33.33%	0%	33.33%
Q8 Felt on Top of	3	12	18	7	1	
Things	7.32%	29.27%	43.90%	17.07%	2.44%	19.51%
Q9 Angered by things	1	12	18	9	1	
Out of Your Control	2.44%	29.27%	43.90%	21.95%	2.44%	24.39%
Q10 Difficulties too high	2	17	18	4	0	
To overcome	4.88%	41.46%	43.90%	9.76%	0%	9.76%

Table 5

Frequencies of Responses in Postsurvey of Motivation

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q11 More Time	0	3	12	16	9	
In School Work	0%	7.50%	30.00%	40.00%	22.50%	62.50%
Q12 Study Harder	1	3	18	13	6	
Test & Exams	2.44%	7.32%	43.90%	31.71%	14.63%	46.34%
Q13 Spend Less	4	4	17	13	2	
Time Partying	10.00%	10.00%	42.50%	32.50%	5.00%	37.50%
Q14 Extra Effort	0	2	19	14	5	
into term papers	0%	5.00%	47.50%	35.00%	12.50%	47.50%
Q15 Keep Up with	1	2	17	13	4	
Reading Assignments	2.70%	5.41%	45.95%	35.14%	10.81%	45.95%
Q16 Procrastinate	1	2	18	14	5	
Less	2.50%	5.00%	45.00%	35.00%	12.50%	47.50%
Q17 Start Studying for	1	1	19	16	4	
Exams before End	2.44%	2.44%	46.34%	39.02%	9.76%	48.78%
Q18 Spend More time	2	5	19	12	3	
in Library	4.88%	12.20%	46.34%	29.27%	7.32%	36.59%
Q19 Stop Engaging in	3	3	18	14	1	
Social Activities	7.69%	7.69%	46.15%	35.90%	2.56%	38.46%
Q20 Avoid Wasting	2	3	20	12	4	
Time	4.88%	7.32%	48.78%	29.27%	9.76%	39.02%
Q21 Plan to be More	1	3	21	12	4	
Organized	2.44%	7.32%	51.22%	29.27%	9.76%	39.03%
Q22 Avoid Missing	0	2	17	17	3	
Work Deadlines	0%	5.13%	43.59%	43.59%	7.69%	51.28%
Q23 Be less casual	1	3	15	15	6	
about school work	2.50%	7.50%	37.50%	37.50%	15.00%	52.50%
Q24 Focus more	2	1	19	14	4	
of studies	5.00%	2.50%	47.50%	35.00%	10.00%	45.00%

Table 6

Frequencies of Responses in Postsurvey of Efficacy

	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q25 Teachers help when stuck on work	1 2.50%	3 7.50%	20 50.00%	14 35.00%	2 5.00%	45.00%
Q26 Studying when interesting things to do	1 2.50%	5 12.50%	17 42.50%	16 40.00%	1 2.50%	42.50%
Q27 Study a chapter for a test	1 2.56%	4 10.26%	19 48.72%	14 35.90%	1 2.56%	38.46%
Q28 Finishing homework daily	3 7.50%	1 2.50%	15 37.50%	20 50.00%	1 2.50%	52.50%
Q29 Paying attention during every class	1 2.50%	2 5.00%	19 47.50%	17 42.50%	1 2.50%	45.00%
Q30 Succeed in passing all subjects	0 0%	2 4.88%	16 39.02%	20 48.78%	3 7.32%	56.10%
Q31 Succeed in satisfying parents with schoolwork	0 0%	2 4.88%	18 43.90%	16 39.02%	5 12.20%	51.22%
Q32 Succeed in passing a test	1 2.44%	3 7.32%	16 39.02%	16 39.02%	5 12.20%	51.22%
Q33 Expressing opinion classmates disagree	2 4.88%	1 2.44%	18 43.90%	16 39.02%	4 9.76%	48.78%
Q34 Becoming friends with other students	0 0%	4 9.76%	13 31.71%	17 41.46%	7 17.07%	58.53%
Q35 Ability to chat with an unfamiliar person	1 2.50%	2 5.00%	18 45.00%	16 40.00%	3 7.50%	47.50%
Q36 Work in harmony with classmates	0 0%	1 2.50%	22 55.00%	14 35.00%	3 7.50%	42.50%
Q37 Tell others doing something you don't like	1 2.44%	5 12.20%	16 30.02%	15 36.59%	4 9.76%	46.35%
Q38 Tell a funny event to	2	4	21	9	5	

a group of children	4.88%	9.76%	51.22%	21.95%	12.20%	34.15% (continued)
	Never	Almost Never	Sometimes	Fairly Often	Very Often	Percent of Positive Percents
Q39 Succeed in staying	0	3	16	17	5	
friends with others	0%	7.32%	39.02%	41.46%	12.20%	53.66%
Q40 Succeed in preventing	1	2	24	12	2	
quarrels with others	2.44%	4.88%	58.54%	29.27%	4.88%	34.15%
Q41 Succeeding in	2	6	15	14	3	
cheering self up	5.00%	15.00%	37.50%	35.00%	7.50%	42.50%
Q42 Succeed in becoming	0	1	26	11	3	
calm when scared	0%	2.44%	63.41%	26.83%	7.32%	34.15%
Q43 Prevent to become	0	6	20	11	2	
nervous	0%	15.38%	51.28%	28.21%	5.13%	33.34%
Q44 Control feelings	1	5	21	9	4	
	2.50%	12.50%	52.50%	22.50%	10.00%	32.50%
Q45 Give self peptalk	1	2	18	12	4	
when feeling low	2.70%	5.41%	48.65%	32.43%	10.81%	43.24%
Q46 Tell a friend that you	2	4	21	11	2	
don't feel well	5.00%	10.00%	52.50%	27.50%	5.00%	32.50%
Q47 Ability suppressing	1	4	17	17	2	
unpleasant thoughts	2.44%	9.76%	41.46%	41.46%	4.88%	46.34%
Q48 Succeed in worrying	1	4	21	11	4	
things might happen	2.44%	9.76%	51.22%	26.83%	9.76%	36.59%

Descriptive Statistic Results

Descriptive statistics are found in Table 7 for the presurvey, postsurvey and Chi-squared for perceived stress. Information can be interpreted as follows. Items with higher means had a larger number of respondents selecting higher categories. For instance, on the presurvey, Item Q1 (“In the last month, how often have you been upset because of something that happened unexpectedly?”) showed a mean of 3.05. In

contrast, Item Q7 (“In the last month, how often have you been able to control irritations in your life?”) showed a mean of 1.95. This would indicate that respondents tended to answer in higher response categories for Item Q1 than Item Q7, which was reflected in the frequency tables (i.e., Table 1) which had 60% positive responses for Item 1 and 25% for Item 7.

Examining Items Q1 and Q7 in the postsurvey showed a decrease in the mean of Q1 with a mean of 1.39 and an increase in the mean of Q7 with a mean of 2.06 indicating student responses selections changed with respondents tending to answer lower response categories for Item Q1 than Item Q7.

Standard deviations reflect fluctuation in responses. Items with lower standard deviations indicate that respondents were more consistent in their answers and there was less variation in responses. Again, comparing Item Q1 to Item Q7, the standard deviation of Item Q1 (0.84) was lower than that of Item Q7 (1.05). This would indicate that respondents had less varied responses for Item Q1 than Item Q7 in both the presurvey and the postsurvey. Chi-square Goodness of Fit tests indicated whether the distribution of responses across response categories showed significant differences. Using the *p* value to indicate significance, a *p* value is considered significant if it less than .05, and it is not significant if above 0.05. Significantly different response distributions are marked with an asterisk. For instance, for Item Q3, the Chi-square was significant, indicating that response patterns differed for Item Q3 from pre to postsurvey.

Table 7

Frequencies of Responses in Postsurvey of Efficacy

	Presurvey		Postsurvey		Chi-Square
	Mean	Std. Dev.	Mean	Std. Dev.	pre to post (p value)
Q1 Upset of Something Unexpected	3.0454	0.8438	1.3888	0.8498	19.22 (.2572)
Q2 Unable to control Important Things	2.5909	0.9591	1.3333	0.6859	15.31 (.2248)
Q3 Felt Nervous and Stressed	2.6818	1.2105	1.7222	0.7519	28.89 (.0248)*
Q4 Confident to Handle Personal Problems	2.0454	0.9989	2.5555	0.8555	25.30 (.0647)
Q5 Felt Things Going Your Way	2.2272	1.0203	2.1666	0.8574	18.25 (.3094)
Q6 Could Not Cope with Things Had to Do	2.1818	1.0970	1.55556	0.7838	6.32 (.8993)
Q7 Able to Control Life Irritations	1.9545	1.0455	2.0555	0.8023	12.98 (.3705)
Q8 Felt on Top of Things	2	1.1952	1.8333	0.8574	9.10 (.9091)
Q9 Angered by Things Out of Your Control	2.7727	0.9223	2.1666	0.7859	16.75 (.4020)
Q10 Difficulties too high to overcome	2.6363	0.9534	1.6666	0.4850	14.84 (.2501)

In Table 8, descriptive statistics are listed based on the presurvey, postsurvey, and Chi-squared for student level of motivation. Items with higher means had a larger number of respondents selecting higher categories. For instance, on the presurvey, Item Q12 ("I plan to study harder for test and exams") showed a mean of 1.91. In contrast, Item Q18 ("I plan to spend more time at the library") showed a mean of 1.23. This would

indicate that respondents tended to answer in higher response categories for Item Q12 than Item Q18.

Examining Items Q12 and Q18 in the postsurvey showed an increase in the mean of Q12 with a mean of 2.61 and an increase in the mean of Q18 with a mean of 2.33, indicating student response selections changed with respondents tending to answer higher response categories for Item Q12 than Item Q18.

Standard deviations reflect fluctuation in responses. Items with lower standard deviations indicate that respondents were more consistent in their answers and there was less variation in responses. Again, comparing Item Q12 to Item Q18, the standard deviation of Item Q12 (0.97) was lower than that of Item Q18 (1.19). This would indicate that respondents had less varied responses for Item Q12 than Item Q18 in both the presurvey and the postsurvey. Chi-square Goodness of Fit tests indicated whether the distribution of responses across response categories showed significant differences. Using the *p* value to indicate significance, a *p* value is considered significant if it less than .05, and it is not significant if above 0.05. Significantly different response distributions are marked with an asterisk. For instance, for Items Q19, Q21, and Q22, the Chi-square was significant, indicating that response patterns differed for Items Q19, Q21, and Q22 from pre to postsurvey.

Table 8

Descriptive Statistics for Intrinsic Motivation

	Presurvey		Postsurvey		Chi -Square
	Mean	Std. Dev.	Mean	Std. Dev.	pre to post (p value)
Q11 More Time In School Work	2	1.19523	2.77778	0.94281	14.81 (.5389)
Q12 Study Harder Test & Exams	1.90909	0.97145	2.61111	0.97853	13.16 (.6612)
Q13 Spend Less Time Partying	1.68182	1.17053	2.05556	1.10997	17.74 (.3392)
Q14 Extra Effort into term papers	1.63636	1.0486	2.83333	0.92355	22.66 (.1231)
Q15 Keep Up with Reading Assignments	1.63636	1.0486	2.66667	1.02899	14.84 (.5365)
Q16 Procrastinate Less	1.63636	1.0486	2.77778	0.73208	11.01 (.8091)
Q17 Start Studying for Exams before End	1.77273	1.02036	2.77778	0.80845	16.88 (.3933)
Q18 Spend More time in Library	1.22727	1.19251	2.33333	1.08465	11.18 (.5135)
Q19 Stop Engaging in Social Activities	1.81818	0.95799	2	1.08465	29.23 (.0224)*
Q20 Avoid Wasting Time	1.63636	1.25529	2.33333	1.13759	18.30 (.3066)
Q21 Plan to be More Organized	1.59091	1.14056	2.38889	1.0369	35.07 (.0039)*
Q22 Avoid Missing Work Deadlines	1.81818	1.22032	2.61111	0.6978	36.90 (.0022)*
Q23 Be less casual about school work	1.77273	1.066	2.44444	0.78382	19.77 (.2307)
Q24 Focus more on studies	1.77273	1.10978	2.55556	1.04162	22.96 (.1148)

In Table 9, descriptive statistics are listed based on the presurvey, postsurvey, and Chi-squared for student level of efficacy. Items with higher means had a larger number of respondents selecting higher categories. For instance, on the presurvey, Item Q31 ("How well do you succeed in satisfying your parents with your schoolwork?") showed a mean of 1.77. In contrast, Item Q41 ("How well do you succeed in cheering yourself up when an unpleasant event have happened?") showed a mean of 1.55. This would indicate that respondents tended to answer in higher response categories for Item Q31 than Item Q41.

Examining Items Q31 and Q41 in the postsurvey showed an increase in the mean of Q31 with a mean of 2.83 and an increase in the mean of Q41 with a mean of 2.17, indicating student response selections changed with respondents tending to answer higher response categories for Item Q31 than Item Q41.

Standard deviations indicate that respondents were more consistent in their answers and there was less variation in responses. Again, comparing Item Q31 to Item Q41, the standard deviation of Item Q31 (1.27) was higher than that of Item Q41 (1.10). This would indicate that respondents had more varied responses for Item Q31 than Item Q41 in both the presurvey and the postsurvey. Significantly different response distributions are marked with an asterisk. Chi-square Goodness of Fit tests indicated whether the distribution of responses across response categories showed significant differences. Using the *p* value to indicate significance, a *p* value is considered significant if it less than .05 and not significant if above 0.05. Significantly, different response distributions are marked with an asterisk. For instance, for Items Q33, Q37, Q38, Q40, Q41, Q42, Q43, Q45, and Q46, the Chi-square was significant, indicating that response patterns differed for Items Q33, Q37, Q38, Q40, Q41, Q42, Q43, Q45, and Q46 from pre

to postsurvey.

Table 9

Descriptive Statistics for Self-Efficacy

	Presurvey		Postsurvey		Chi -Square
	Mean	Std. Dev.	Mean	Std. Dev.	pre to post (p value)
Q25 Teachers help when stuck on work	2	1.1127	2.3333	0.8401	26.28 (.0501)
Q26 Studying when interesting things to do	1.3636	0.9534	2.1111	0.8323	11.56 (.7739)
Q27 Study a chapter for a test	1.5	1.1443	2.1666	0.8574	29.78 (.0192)
Q28 Finishing homework Daily	1.6818	1.1291	2.4444	1.0416	22.14 (.1386)
Q29 Paying attention during every class	1.7727	0.8125	2.5	0.8574	37.68 (.0017)
Q30 Succeed in passing all subjects	2	1.0235	2.5	0.7071	5.85 (.9236)
Q31 Succeed in satisfying parents with schoolwork	1.7727	1.2698	2.8333	0.7071	18.38 (.1045)
Q32 Succeed in passing a test	1.8181	1.0527	2.3333	1.0289	26.06 (.0532)
Q33 Expressing opinion classmates disagree	1.5454	0.6709	2.6666	0.9701	30.48 (.0024)*
Q34 Becoming friends with other students	2.3181	1.1705	2.7222	0.8947	20.15 (.0644)
Q35 Ability to chat with an unfamiliar person	1.7272	1.2024	2.5	0.7859	23.10 (.1111)
Q36 Work in harmony with classmates	1.8181	1.0970	2.3333	0.8401	10.20 (.5988)
Q37 Tell others doing something you don't like	1.5	1.1852	2.3888	1.0921	27.45 (.0367)*
Q38 Tell a funny event to a group of children	1.8181	1.2960	2.2222	1.1143	31.19 (.0127)*

(continued)

	Presurvey		Postsurvey		Chi -Square
	Mean	Std. Dev.	Mean	Std. Dev.	pre to post (p value)
Q39 Succeed in staying friends with others	2.3181	0.9945	2.7777	0.7320	14.92 (.2455)
Q40 Succeed in preventing quarrels with others	1.8636	1.0371	2.4444	0.7047	30.89 (.0139)*
Q41 Succeeding in cheering self up	1.5454	1.1009	2.1666	0.9851	27.81 (.0333)*
Q42 Succeed in becoming calm when scared	1.8181	1.0064	2.4444	0.7838	26.21 (.0100)*
Q43 Prevent to become nervous	1.7727	0.7516	2.2222	0.9428	33.17 (.0070)*
Q44 Control feelings	1.3636	1.2552	2.2777	0.8264	25.35 (.0639)
Q45 Give self peptalk when feeling low	1.5	1.0118	2.5	0.9235	30.85 (.0141)*
Q46 Tell a friend that you don't feel well	1.9090	1.0192	2.3888	0.8498	27.34 (.0379)*
Q47 Ability suppressing unpleasant thoughts	1.2272	0.9223	2.5555	0.7838	24.29 (.0834)
Q48 Succeed in worrying things might happen	2.0909	1.2309	2.3888	0.8498	26.29 (.0501)

Scale Score Descriptive Information

Reliability for the survey was measured with Cronbach's alpha (α). For the presurvey, reliability was 0.93. For the postsurvey, reliability was 0.94. These measures indicate the degree of internal consistency of the responses. Reliabilities higher than 0.80 are typically considered adequate. Thus, these two surveys provide adequate reliability for the constructs being measured.

Items were then used to construct scales for stress (10 items), motivation (14 items), and self-efficacy (24 items). Scores for each scale were calculated using summed

scores. Item responses ranged from 0 to 4 creating a range of 0 to 40 for the stress scale, 0 to 56 for the motivation scale, and 0 to 96 for the self-efficacy scale. Descriptive statistics for these scales are found in Table 10. It can be seen that average scores for the stress scale decreased (μ_{pre}=22.8, μ_{post}=17.7), but average scores for motivation (μ_{pre}=22.9, μ_{post}=30.7) and self-efficacy (μ_{pre}=41.7, μ_{post}=56.3) increased.

Table 10

Scale-Score Descriptive Information from Survey Items

Variable	N	Mean	Std. Dev	Min	Max
Pre-Stress	41	22.82927	4.27728	15	34
Post-Stress	41	17.68293	4.42967	0	25
Pre-Motivation	41	22.90244	9.75911	3	48
Post-Motivation	41	30.65854	7.27533	15	52
Pre-Efficacy	41	41.70732	15.03703	18	82
Post-Efficacy	41	56.29268	11.28549	25	79

Scale Correlation

Correlations between the scales are found in Table 11. These correlations represent the relationship between the scales. For instance, the correlation between pre-efficacy and post-efficacy was 0.342 (r=.342, p=.028). This correlation was significant, indicating a significant relationship between pre and post-scores. Significant correlations were found for pre-efficacy and pre-motivation, post-efficacy and post-motivation, and pre-efficacy and post-efficacy. A set of scatterplots Figures 1-15 (Appendix B), provide a visual display of the relationships among the scales.

Table 11

Scale Correlations from Survey Items

Scale Correlations from Survey Items						
	Pre-Stress	Post-Stress	Pre-Motivation	Post-Motivation	Pre-Efficacy	Post-Efficacy
Pre-Stress	1					
Post-Stress	0.13430 (0.40250)	1.00000				
Pre-Motivation	-0.28190 (0.07420)	-0.06088 (0.70540)	1.00000			
Post-Motivation	0.10332 (0.52030)	0.22152 (0.16390)	-0.05224 (0.74560)	1.00000		
Pre-Efficacy	-0.28882 (0.06700)	-0.06298 (0.69570)	0.79334* (<.0001)	-0.01693 (0.91630)	1.00000	
Post-Efficacy	-0.02069 (0.89780)	0.23645 (0.13670)	0.05974 (0.71060)	0.52770* (0.00040)	0.34200* (0.02860)	1

Note. Table shows correlations with significance values in parentheses.

T-test Results

Dependent samples t tests were used to determine significance of mean score differences from pre to postsurvey. Figures 16-18 display profile plots (Appendix C). Each blue line represents an individual and the red line represents the mean. The visual representation shows average stress scores decreased from pre to postsurvey, whereas average motivation and average efficacy scores increased from pre to postsurvey.

Results of the t tests are found in Table 12. The decrease in stress from pre to postsurvey was significant (μ_{diff}=-5.15, t=-5.75, p<.0001) indicating that on average, respondents showed a decrease in perceived stress scores from pre to postsurvey. The increase in motivation from pre to postsurvey was significant (μ_{diff}=7.76, t=3.98,

p=.0003) indicating that on average, respondents showed an increase in motivation scores from pre to postsurvey. The increase in self-efficacy from pre to postsurvey was significant (μ_{diff}=14.59, t=6.06, p<.0001) indicating that on average, respondents showed an increase in self-efficacy scores from pre to postsurvey.

Table 12

Dependent Samples t-test Results

	Mean Difference (pre-post)	Standard Deviation of difference	Min, Max	t(df)	p
Stress	-5.15	5.73	-21,7	-5.75 (40)	<.0001
Motivation	7.76	12.47	-28,49	3.98 (40)	0.0003
Efficacy	14.59	15.41	-39,38	6.06 (40)	<.0001

Open Discussion Frequency Distribution

During open discussions, respondents frequently mentioned a problem-focused strategy and an avoidance-focused strategy to deal with stress. The percent frequency of implementing an active coping strategy was the highest percent at 46.90%. That category involved students actively participating in a sport or extracurricular activity, changing their environment by walking away from situations, confronting the situation, and managing threats by thinking before acting on the stressor present. The second highest frequency involved students avoiding and escaping the situation through denial, implementing distractions, avoiding work or avoiding the situation all together by ignoring the situation, forgetting the problem, and not paying attention as indicated in Table 13. The percent of frequencies for avoidance focused strategies was 26.50%.

Table 13

Frequency Distribution Table from Open Discussions

Theme	Frequency	% of Frequency
Problem Solving	8	7.10%
Implementing Active Coping	53	46.90%
Implementing Emotional Support	2	1.80%
Reducing Stress	11	9.70%
Limiting Tension, Denial, and Avoidance	30	26.50%
Disengagement	9	8.00%

Summary

This chapter reported the descriptive statistics of the quantitative results represented in the form of frequency distribution tables of the presurvey and postsurvey data, descriptive statistics for the dependent variables, and, finally, scales scores, an analysis of a correlation table, and t-test results that analyze the relationship between the presurvey and postsurvey and between the three dependent variables. Graphs were also used to give a visual representation of what is listed in the respective tables. The qualitative data were collected and grouped into themes to create a frequency distribution table of the percent of student responses during the open discussions. A summary of the results, conclusion, limitations of the study, and recommendations for future research are discussed in Chapter 5.

Chapter 5: Discussion

Introduction

The purpose of this study was to investigate the impact of stress-coping strategies on perceived levels of stress in adolescents, as well as on their levels of motivation and self-efficacy. Adolescence is a stressful time for many young people and is a crucial time for students to successfully complete high school. This study considered stress as a disruption of adolescents' regular routines and recognized the adolescents' abilities to identify that a problem exists and to determine the resources needed to deal with that problem. Specifically, this study investigated the following research questions: (1) what is the impact of stress-coping skills on perceived stress levels in adolescents; (2) what is the impact of stress-coping skills on levels of intrinsic motivation in adolescents; and (3) what is the impact of stress-coping skills on student self-efficacy?

It was anticipated that coping strategies in the form of problem-focused behaviors, emotion-focused behaviors, and avoidance-focused behaviors are skills used to buffer stressful encounters. The participants were a select group of students identified for special services from a diverse school district in North Carolina, with a school population of 1,450 students from Grades 9 through 12. School demographics were as follows: 45% Caucasian, 37% African American/Black, 15% Hispanic, and 3% other, including but not limited to Asian, American Indian, and Multiple Ethnicity. The sample participants were chosen from the group of 50 available students identified for special services. Parental consent was obtained from the guardians by the school-based therapist. Nine students who never returned the required consent form were not included in the study. A total of 41 students, 22 females and 19 males, completed the pre and postsurveys and participated

in the open discussion. The students' average age was 15.6, with 24 of these students from the ninth grade, 13 from the tenth grade, four from the eleventh grade, and zero from the twelfth grade.

The data were collected using one online survey that included three distinct instruments: The PSS (Cohen & Williamson, 1988), The Motivation Scale (Lockwood et al., 2002) and a Brief Questionnaire for Measuring Self-Efficacy (Muris, 2001). The PSS is composed of 10 items that asked students about their feelings and thoughts during the last month, rating each question on 4-point Likert scale with 0 meaning never and 4 meaning very often. The Motivation Scale asked students about their ability to motivate themselves; the scale ranged from 0 (never) to 4 (fairly often). The third instrument, a Brief Questionnaire for Measuring Self-Efficacy, looked at students' self-efficacy as it relates to academics, social, and emotional perceptions. The scale ranged from 0 (never) to 4 (fairly often).

Students were given 20 to 30 minutes to take the online survey during the pre and postsurvey phases. Surveyed data were submitted directly to an online database, which was later compiled into excel spreadsheets after the pre and postsurvey phases to transfer into the SPSS program where the statistical analysis was computed. The open discussion involved multiple audio recorded sessions led by the school-based therapist asking students questions such as:

- What stress-coping strategies have you used during the last month?
- Did using these strategies improve your level of stress? If so, how?
- If you didn't have these strategies would you still be motivated to work in school? Why?

- Did these strategies encourage you to do better in school? How?
- After learning these strategies do you feel it helped with your ability to cope with a situation?
- Which strategies did you use to help you believe you were able to better cope with situations?

Responses were recorded in a frequency distribution table that recorded the percent of frequency of the student responses from the open discussions.

Summary of Results

Research Question 1. Research Question 1 addressed the impact of stress-coping skills on perceived stress levels in adolescents. Students answered mostly in the "sometimes" and "fairly often" categories when responding to their levels of perceived stress during the presurvey. On the postsurvey, student responses shifted to the "almost never" and "sometimes" categories. The answers implied that student stress levels decreased as stress-coping strategies were implemented. Frydenberg et al. (2004) suggested that if coping strategies were implemented early enough, these strategies proved to be successful for students. These items had higher means with a larger number of respondents selecting higher categories on the presurvey; Item Q1 ("In the last month, how often have you been upset because of something that happened unexpectedly?") showed a mean of 3.05. In contrast, Item Q7 ("In the last month, how often have you been able to control irritations in your life?") showed a mean of 1.95.

Examining Items Q1 and Q7 in the postsurvey showed a decrease in the mean of Q1 to 1.39 and an increase in the mean of Q7 to 2.06, which indicated that student response selections changed with respondents' tendencies to answer lower response

categories for Item Q1 than Item Q7. The standard deviation of Item Q1 (0.84) was lower than that of Item Q7 (1.05). This indicated that respondents had fewer varied responses for Item Q1 than Item Q7 in both the presurvey and the postsurvey. For Item Q3, the Chi-square was significant, indicating that response patterns differed for Item Q3 from pre to postsurvey with a *p* value of .0248, which is less than the desired significant level of 0.05. Therefore, with a 95% confidence level, the researcher inferred that students were less stressed and nervous due to the implementation of coping strategies. Regardless of the achievement level of the student, coping mechanisms for success are necessary. Coping moderates the relationship between perceived stress and mental health even among high-achieving students as proposed by Suldo et al. (2008). Students who know how to cope are those who find ways to handle and solve their own problems. In other words, students using coping strategies are healthier emotionally and perform better in school because they miss fewer classes. This is true for students of all achievement levels. The data suggest that students who are able to manage their emotional levels in their daily lives are able to cope with the pressures of school and, thus, are emotionally healthier and balance this with their school work.

Research Question 2. Research Question 2 addressed the impact of stress-coping skills on levels of intrinsic motivation in adolescents. Students answered mainly in the "almost never" and "sometimes" categories when responding to their levels of motivation during the presurvey. On the postsurvey, student responses moved to the upper end of the continuum producing higher levels of positive percents for the response items students selected under the motivation category. The results imply that student motivation increased due to the implementation of stress-coping strategies. Brdar et al. (2006) said that motivation affects school achievement and is mediated through coping

strategies such as setting goals, solving problems by seeking support from adults, and actively responding to stressors by adapting to the situation. These items had higher means with a larger number of respondents selecting higher categories on the presurvey. Item Q12 ("I plan to study harder for test and exams") showed a mean of 1.91. In contrast, Item Q18 ("I plan to spend more time at the library") showed a mean of 1.23.

Examining Items Q12 and Q18 in the postsurvey showed an increase in the mean of Q12 with a mean of 2.61, and an increase in the mean of Q18 with a mean of 2.33, which indicated that student response selections changed with respondents answering higher response categories for Item Q12 than Item Q18 on the postsurvey. The standard deviation of Item Q12 (0.97) was lower than that of Item Q18 (1.19). This data indicated that respondents had fewer varied responses for Item Q12 than Item Q18 in both the presurvey and the postsurvey. In Items Q19, Q21, and Q22, the Chi-square was significant, indicating that response patterns differed for Items Q19 (p=.0224), Q21 (p=.0039), and Q22 (p=.0022) from pre to postsurvey. Student motivation to engage less in social activities, become more organized, and avoid missing deadlines all increased with a 95% level of confidence. The literature suggests practicing responses, asking questions, and using negotiation skills by actively planning helped suppress extensive stressors in these adolescents (Monat et al., 2007). These results suggest that when students are able to implement the strategies they know as they indicated in their open discussion, they have more positive outcomes. Students learned to walk away, talk to a teacher or a peer, and not get involved in situations that did not involve them by minding their own business. Students were less involved in negative behaviors and more involved in positive interactions that were more productive, by decreasing their discipline, allowing them to spend more time in their classrooms utilizing strategies with which they

became comfortable. In addition, these results reinforce the suggestion that when students are focused on school rather than negative social interactions, they become more involved in the process and are thus motivated to participate in the educational activities, which these results would suggest leads to a more motivated and productive student.

Research Question 3. Research Question 3 addressed the impact of stress-coping skills on levels of self-efficacy in adolescents. Students answered mainly in the "almost never" and "sometimes" categories when responding to their levels of self-efficacy during the presurvey. On the postsurvey, responses moved to the upper end of the continuum producing higher levels of positive percentages for the response items students selected under the efficacy category. The data implies that student self-efficacy increased after the implementation of stress-coping strategies. Zeidner (1990) stated that the ability to control anxiety and potential threats demonstrated perceived self-efficacy. Doron et al. (2009) revealed that students' perceptions of using coping strategies to control their academics varied based on their belief in their ability to control their environment, but the results suggested an instrumental impact for females. The study suggests some students truly believed they have no control over what happens to them. However, students who were introduced to various coping strategies realized that, in fact, they did have control and began exerting control over various situations. Students began using strategies more consistently once they knew how to use strategies to get through their problems. The results are not able to create causality in this matter; that is, we are not able to determine if it is because the students were given stress-coping mechanisms that they previously did not have or if they now knew how to use the stress-coping mechanisms that were already there that caused these results, but either way we can say that there is a correlation between stress-coping mechanisms and student performance in

school. This new knowledge of the students' abilities to control their own behaviors improved academic performance and mental health and gave them multiple ways to handle stress. Students became more aware of seeing potential solutions instead of looking at everything as a problem, building their confidence and their ability to deal with their issues. These items had higher means with a larger number of respondents selecting higher categories on the presurvey. Item Q31 ("How well do you succeed in satisfying your parents with your schoolwork?") showed a mean of 1.77. In contrast, Item Q41 ("How well do you succeed in cheering yourself up when an unpleasant event have happened?") showed a mean of 1.55.

An examination of Items Q31 and Q41 in the postsurvey showed an increase in the mean of Q31 with a mean of 2.83, and an increase in the mean of Q41 with a mean of 2.17, indicating student response selections changed with respondents tending to answer higher response categories for Item Q31 than Item Q41 on the postsurvey. The standard deviation of Item Q31 (1.27) was higher than that of Item Q41 (1.10). This difference indicated that respondents had more varied responses for Item Q31 than for Item Q41 in both the presurvey and the postsurvey. For Items Q33, Q37, Q38, Q40, Q41, Q42, Q43, Q45, and Q46, the Chi-square was significant, indicating that response patterns differed for Items Q33 ($p=.0024$), Q37 ($p=.0367$), Q38($p=.0127$), Q40 ($p=.0139$), Q41 ($p=.0333$), Q42 ($p=.0100$), Q43($p=.0070$), Q45 ($p=.0141$), and Q46 ($p=.0379$) from pre to postsurvey. Student self-efficacy to express self, talk to someone, cheer self up, stay calm, prevent quarrels, and not get nervous all increased with a 95% confidence level. Tenenbaum et al. (2011) indicated again that students using problem-focused strategies included behaviors that made students think, resolve problems, and directly address the problem for perceived-coping efficacy. In the study, it was noted that these students

asked for help, were less likely to talk back, walked away from negative situations, thought about the outcome before they responded, and focused more on their school work. Therefore, these same students did not get in trouble as much, finished work in class, and improved overall behavior. It is also anticipated, or at least desired, that this will become a lifelong behavioral habit for these individuals and those peers around them. Thinking and resolving problems will have an impact on all aspects of their lives, especially in learning environments.

Conclusion and Implications

Scores for each scale were calculated using summed scores. Item responses ranged from 0 to 4 creating a range of 0 to 40 for the stress scale, 0 to 56 for the motivation scale, and 0 to 96 for the self-efficacy scale. Average scores for the stress scale decreased (μ_{pre}=22.8, μ_{post}=17.7). Average stress scores decreased from pre to postsurvey. The decrease in stress from pre to postsurvey was significant (μ_{diff}=-5.15, t=-5.75, p<.0001) indicating that on average, respondents showed a decrease in perceived stress scores from pre to postsurvey, implying that students were incorporating the stress-coping strategies, and these results correlated to improved perceived stress levels. As indicated by Tenenbaum et al. (2011), students who used multiple strategies simultaneously found results to be more effective rather than using a primary strategy or no strategies at all. As noted in the open discussion, once the students learned strategies, they continued to use them and were able to use them more frequently or one at a time depending on the situation they were dealing with. Students who were not as comfortable with the strategies at least learned how to avoid situations instead of creating more problems for themselves.

Average scores for motivation (μ_{pre}=22.9, μ_{post}=30.7) and self-efficacy (μ_{pre}=41.7,

μ_{post}=56.3) increased. Motivation and average efficacy scores increased from pre to postsurvey, implying that student motivation and self-efficacy improved by using the stress-coping strategies. Sontag and Graber (2010) concluded that coping is an effort to manage specific external and internal demands of stress. The correlation between pre-efficacy and post-efficacy was 0.342 (r=.342, p=.028). This correlation was significant, indicating a significant relationship between pre and post-scores. This result implies an opportunity for adolescent success in school when students are given the ability to create coping strategies. Frydenberg (1997) said that implementing coping styles allowed adolescents to remain focused, relaxed, in control, and socially connected, which allowed them to solve problems effectively. Overall, students were happier, came to school, did not get into trouble as much, and were doing better in class and within their peer relationships. Negative experiences in life were not distracting students as seen through the decrease in students getting into trouble and an increase in class and peer relationships as the study progressed. This led to an observed happier and more engaged student, enjoying life in general and a more observable positive environment they began to create for themselves. Significant correlations also existed for pre-efficacy and pre-motivation (r=.793, p<.0001), and post-efficacy and post-motivation (r=.528, p=.0004). The significance of this relationship is to recognize the ability to maintain a positive relationship among behaviors for continuous student success. Furthermore, students who do not have positive behaviors to use can fall into a state of depression as indicated from the research of Horwitz et al. (2011). Students who do not cope are not as happy, their lives are full of problems, and they are less in control of academic success. Lack of socialization leads to more problems, fewer friends, and missed school time. In extreme cases, a lack of coping skills can lead to severe mental health issues in terms of cutting

oneself and/or using drugs and alcohol to deal with stress.

The increase in motivation from pre to postsurvey was significant (μ_{diff}=7.76, t=3.98, p=.0003), indicating that on average, respondents showed an increase in motivation scores from pre to postsurvey. The increase in self-efficacy from pre to postsurvey was significant (μ_{diff}=14.59, t=6.06, p<.0001), indicating that on average respondents showed an increase in self-efficacy scores from pre to postsurvey. The percent of frequency from the open discussion showed that students used strategies when dealing with a stressful encounter. The percent of frequency of implementing an active coping behavior was the highest percent at 46.90%, and the avoidance focused behaviors identified 26.50% of frequency indicated from the open discussions. Active coping allows students to release frustration by keeping their minds occupied on things other than their stress by playing sports, exercising, listening to music, and talking to friends or adults to manage their worry. Avoidance-focused behaviors worked in the beginning when students first learned strategies, then after they were able to cope, they turned more to problem-focused behaviors because they saw how they were able to release more tension and move past their problems faster.

The literature review identified several studies that support the implementation of stress-coping strategies to minimize a stressor. Monat et al. (2007) reported that students who actively planned helped to suppress extensive stressors and decrease stress. Students said in the open discussions that 46.90% of the time they used active coping as a way to deal with stress while in school in the last month. Horwitz et al. (2011) supported this finding and concurred that depressed teens used problem-focused coping behaviors in the form of active coping and planning as instrumental support systems. Students reported that when escaping from a stressor, they implemented a denial or avoidance behavior

26.50% of the time. Active coping behaviors got students out of a state of depression quicker because it diverted the attention towards something else and allowed students to deal with their stress, therefore decreasing the odds of depression. In contrast, avoidance-focused coping only suppressed the depression for a short period of time instead of completely dealing with and getting rid of the stressful feelings. Students who employed problem-focused behaviors revealed that those behaviors actually helped them and made a difference in their academic performances. Students who regularly employ coping strategies perform better in school and have an improved ability to cope with stressors. This data supported the research by Tenenbaum et al. (2011), who determined in their study that there was an overlapping of problem-focused behaviors and emotion-focused behaviors as indentified by the use of seeking social support, distancing, or internalizing the stress when required. Due to a convergence of these stresses that students encounter (emotional and physical types of problems), it makes sense for them to use strategies in both categories. When students identified the problem, they were using an emotion-focused behavior. When students dealt with the problem, this involved implementing a problem-focused behavior.

Open-discussion distribution frequencies confirmed the research of Jaser et al. (2005) where students implemented disengagement-coping behavior 9.70% of the time. Students implemented problem-solving strategies only 7.10% of the time to improve stress, according to the open-discussion percent frequencies. This data would raise many questions since numerous researchers talked about the use of problem-solving strategies and behaviors that made students think and resolve their problems by directly addressing the problem and the healthy implication to using this strategy (Shaunessy & Suldo, 2010; Sung, 2011; Tenenbauum et al., 2011). Perceived stress decreased, and intrinsic

motivation and self-efficacy showed an increase from pre to postsurvey; and according to Frydenberg et al. (2004), coping strategies implemented early enough proved to be successful. In other words, young people need to be taught coping strategies before they reach adolescence. Having knowledge and coping strategies gives students the opportunity to minimize the danger levels of failing classes, dropping out, being disengaged in social activities, and jeopardizing their chances of graduation. When students are coming to school knowing that most of their daily experiences will be positive, they will have the necessary reasons and motivation, along with the strategies to deal with minimal stress in their daily lives. If achieved before adolescence, the opportunities for sustained behaviors are more likely as the behaviors become a part of effective habits.

Limitations

The following limitations need to be considered if future research is developed in the area of adolescent stress and coping strategies. This study utilized a sample of convenience from a high school in North Carolina. The sample of convenience was further limited to students recommended for special services; therefore, only 50 students were potentially available to participate in this study. Possible inaccurate responses were caused by misinterpretation of survey questions, students rushing through the survey, and students who did not take the survey seriously. To prevent multiple sessions, three instruments were combined into one. However, judging from the students' reactions, this may have been poor planning on the researcher's part, hence causing an additional limitation to the study. There is no formula that defines coping and if it works after the implementation phase. The participants believed the survey was too long. However, this belief may be in large part due to the inherent nature of the participants. During the

implementation phase, some students had difficulty answering questions related to coping in the open discussions and determining the effectiveness of using stress-coping strategies because, once again, too much information was given to students all at the same time.

Recommendations

Future study is definitely needed since there was an improvement from pre to postsurvey in the area of perceived stress, motivation, and self-efficacy for students participating in the study. Researchers that study strategies that impact perceived stress, motivation, and self-efficacy need to investigate trends impacting student well-being and academics due to stressful encounters. Students able to use problem-focused strategies were perceived as following a healthy model of living (Hobfall, 1998). These strategies could improve student stress, depression, or suicidal inclinations if students were given an opportunity to participate in programs that would address these mental health issues centered on stress.

Everybody needs to get involved in implementing these coping strategies. Targeted groups would include parents, outside support networks, Scouts, and Boys & Girls Clubs. These groups can address specific strategies that can be used and behaviors that were more hands-on and deliberately address students' specific problems.

Students in this sample were already identified as students receiving special services; therefore, future studies need to be open to a larger population of students and a more diverse group. A larger sample is recommended with students on both ends of the continuum in terms of intelligence and age to further validate results and not limited to students under special classifications. An analysis readability of survey questions is required to determine if questions were too wordy and if the surveys chosen were

appropriate for the sample chosen. Students did not understand basic questions and either skipped the question or verbalized that they did not understand what the question was asking.

For the study to be truly valid, multiple sessions were required for students to take three smaller surveys at three different times. Also, a recommendation would be to narrow down the number of strategies on which to focus, one or two relationships that can be used to combat stress and increase motivation and self-efficacy. These recommendations include, but are not limited to, longer training sessions with students and the school-based therapist, an opportunity for the therapist to teach strategies to teachers or implement a specific program that is run through one of the elective classes for ongoing exposure and use, or to have students participate in an after-school club that focuses specifically on self-improvement and development by decreasing stress and increasing motivation and self-efficacy.

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Appendix A

Combined Survey – Perceived Stress Scale, Motivation Scale, Brief Questionnaire of Self-Efficacy

Survey
Created using Google Form

Gender: **Choose one** **Male _____ Female:_____**

Type in your NCWise/ Lunch Number:_____

Type in your Age: **_____**

Perceived Stress Scale- 10 Items

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt nervous and "stressed"?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

5. In the last month, how often have you felt that things were going your way?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

7. In the last month, how often have you been able to control irritations in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

8. In the last month, how often have you felt that you were on top of things?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

9. In the last month, how often have you been angered because of things that were outside of your control?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

Motivation Scale – The questions below ask you about how motivated you are. Using the scale below, in each case, please indicate with a check how often you felt or thought a certain way.

1. **I plan to put more time in my school work**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

2. **I plan to study harder for test and exams**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

3. **I plan to spend less time partying with friends.**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

4. **I plan to put extra effort into the rest of my term papers.**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

5. **I plan to keep up with reading assignments**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

6. **I plan to procrastinate less**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

7. **I plan to start studying for exams before the term ends**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

8. **I plan to spend more time at the library**
   ___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

9. **I plan to stop engaging in social activities that interfere with school work**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true
10. **I plan to avoid wasting time.**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

11. **I plan to be more organized**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

12. **I plan to avoid missing work deadlines.**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

13. **I plan to be less casual about school work.**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

14. **I plan to focus more on my studies**
___0=never true ___1=almost never ___2=sometimes ___3=fairly often ___4=always true

Brief Questionnaire for Self Efficacy – The questions below ask you about your perceived capability for peer relationships and assertiveness, to manage your own learning and behavior, master academic subjects and expectations, and ability to cope with negative emotions. Using the scale below, in each case, please indicate with a check how often you felt or thought a certain way.

1. **How well can you get teachers to help you when you get stuck on schoolwork?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

2. **How well can you study when there are other interesting things to do?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

3. **How well can you study a chapter for a test?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

4. **How well do you succeed in finishing all your homework every day?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

5. **How well can you pay attention during every class?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

6. **How well do you succeed in passing all subjects?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

7. **How well do you succeed in satisfying your parents with your schoolwork?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

8. **How well do you succeed in passing a test?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

9. **How well can you express your opinions when other classmates disagree with you?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

10. **How well can you become friends with other students?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

11. **How well can you have a chat with an unfamiliar person?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

12. **How well can you work in harmony with your classmates?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

13. **How well can you tell other children that they are doing something that you don’t like?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

14. **How well can you tell a funny event to a group of children?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

15. **How well do you succeed in staying friends with other children?**

___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

16. **How well do you succeed in preventing quarrels with other children?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

17. **How well do you succeed in cheering yourself up when an unpleasant event have happened?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

18. **How well do you succeed in becoming calm again when you are very scared?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

19. **How well can you prevent to become nervous?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

20. **How well can you control your feelings**?
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

21. **How well can you give yourself a peptalk when you feel low?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

22. **How well can you tell a friend that you don't feel well?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

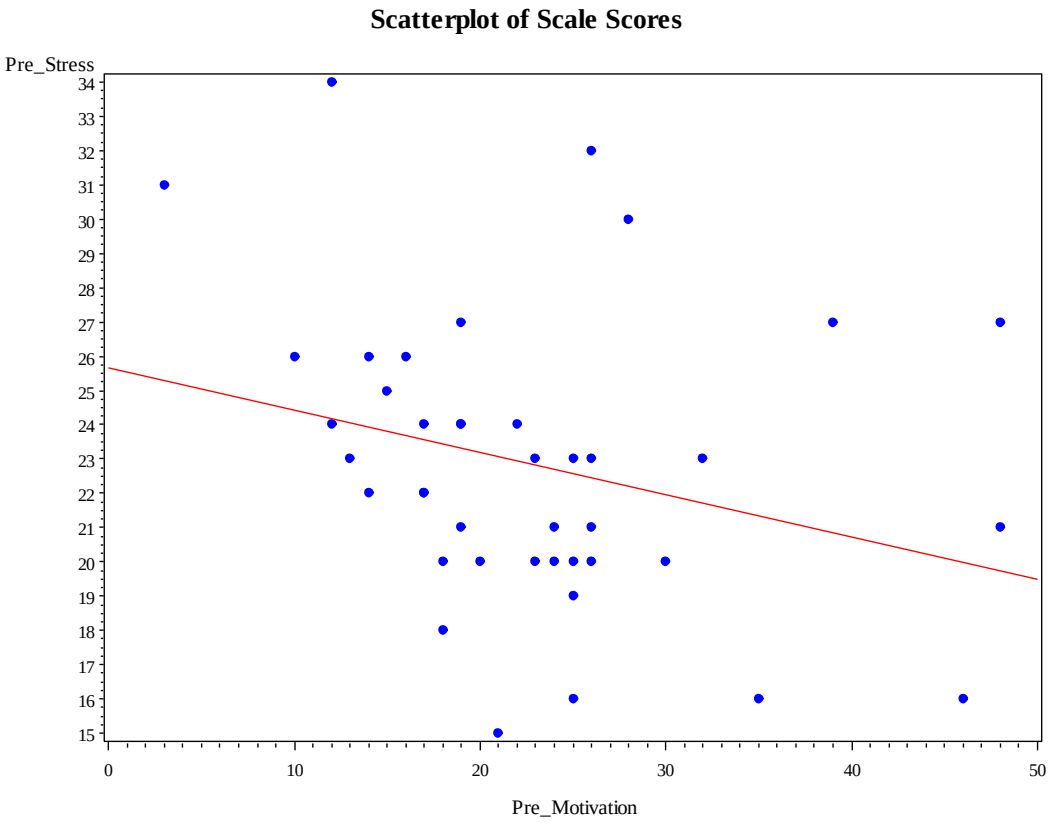
23. **How well can you succeed in suppressing unpleasant thoughts?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

24. **How well do you succeed in worrying about things that might happen?**
___0=not at all ___1=almost never ___2=sometimes ___3=fairly often ___4=very well

Appendix B

Scatterplots Figures 1 -15

Figure 1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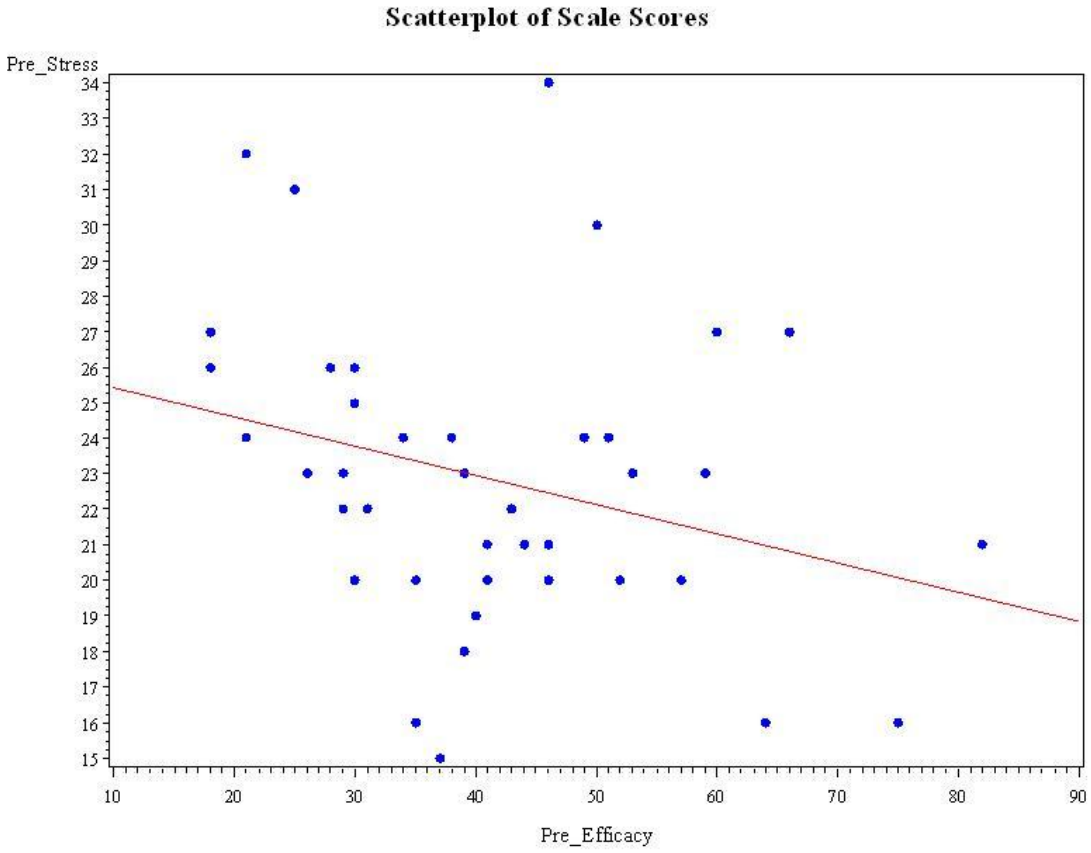
Pre_Motivation

Figure 2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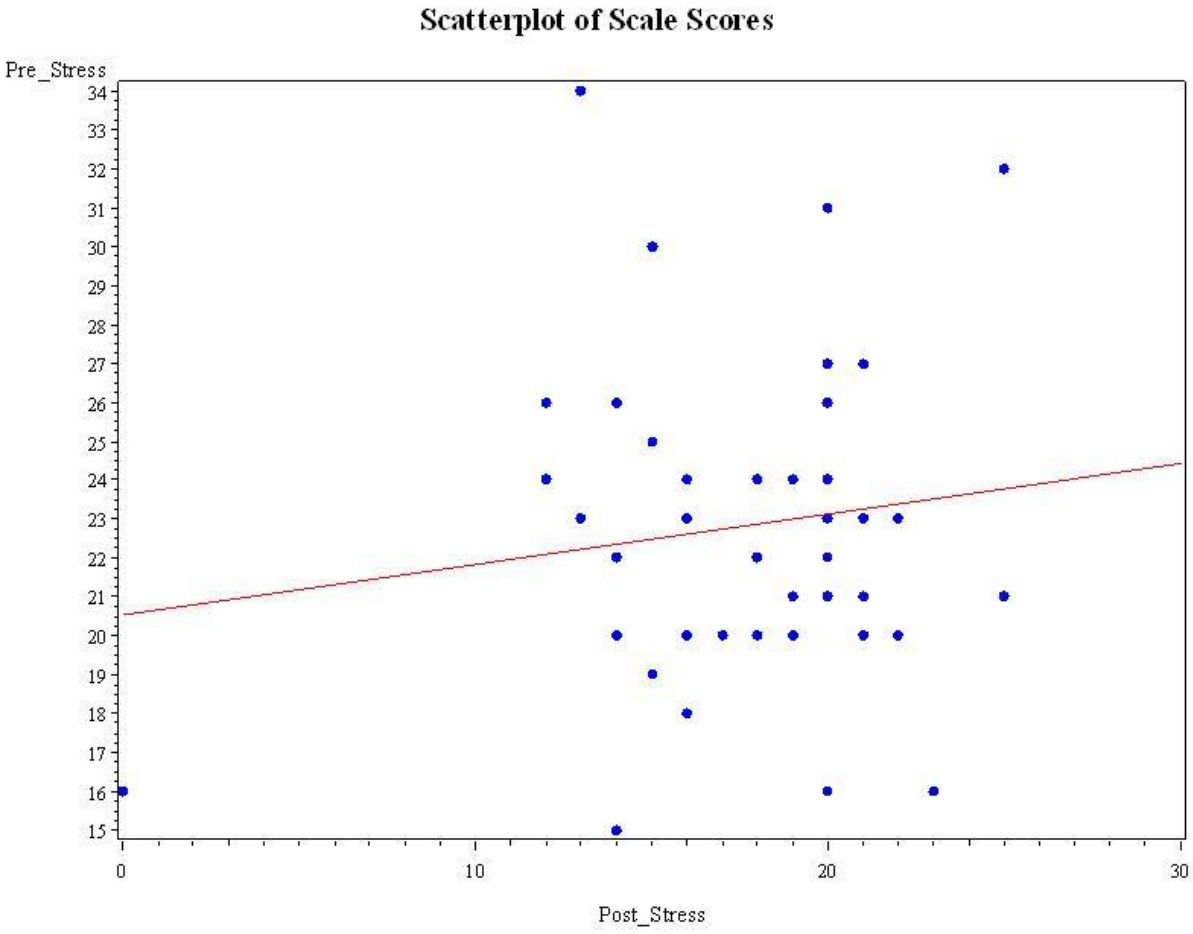
Pre_Efficacy

Figure 3


Scatterplot of Scale Scores
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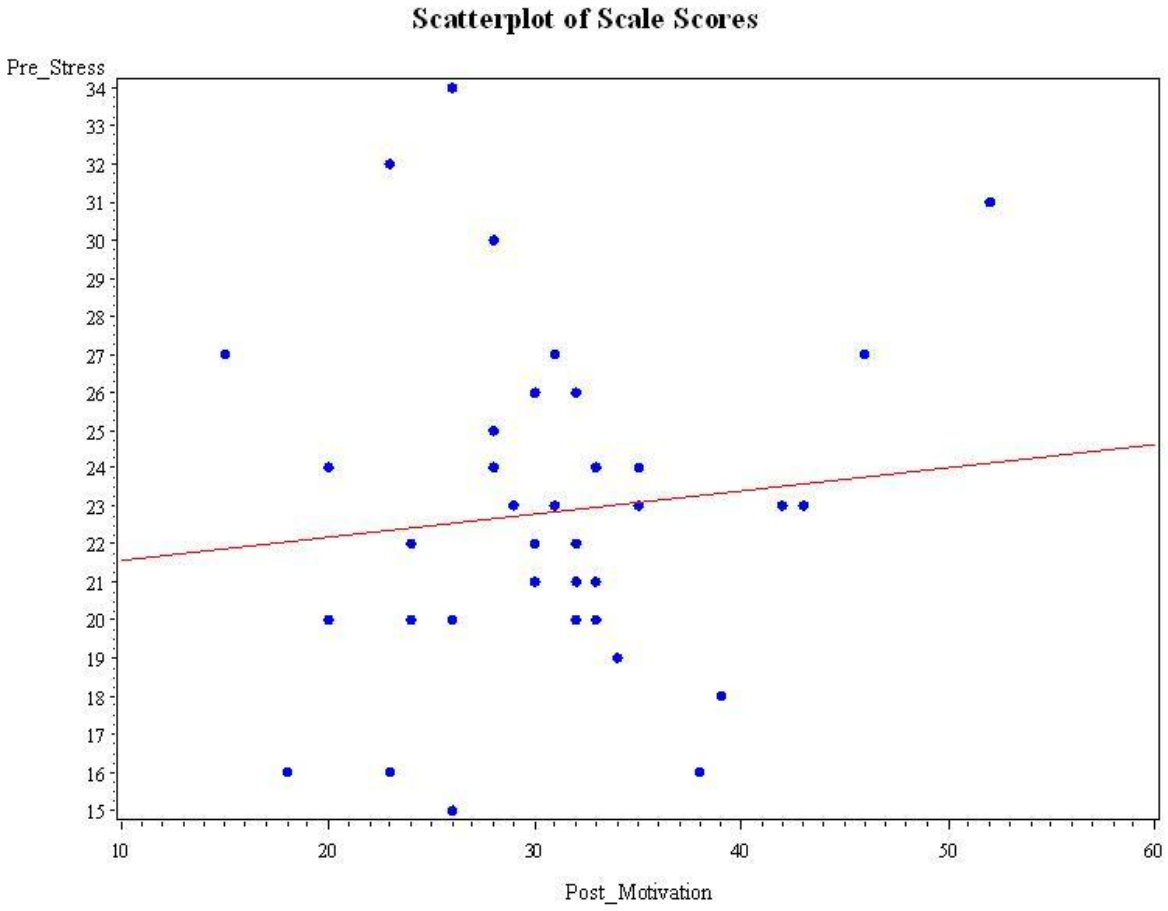
Post_Stress

Figure 4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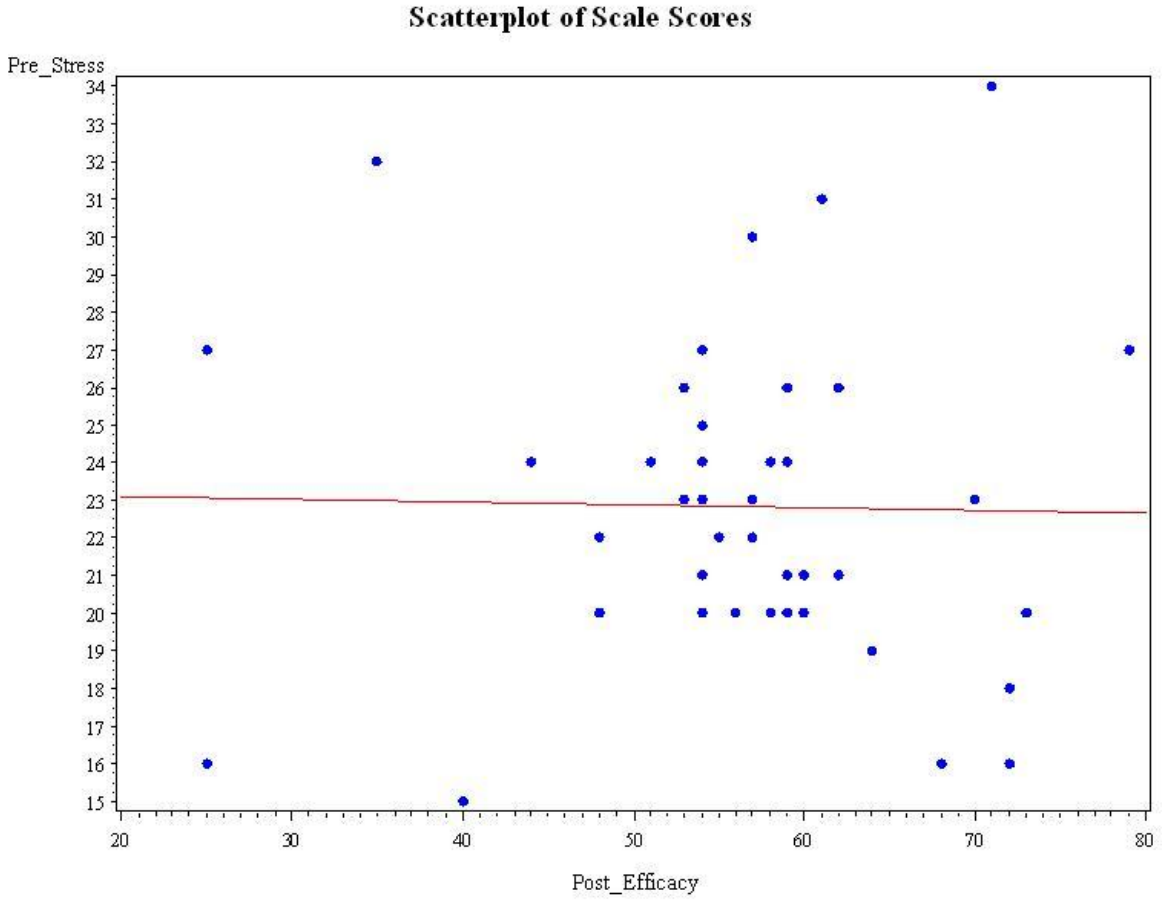
Post_Motivation

Figure 5


Scatterplot of Scale Scores
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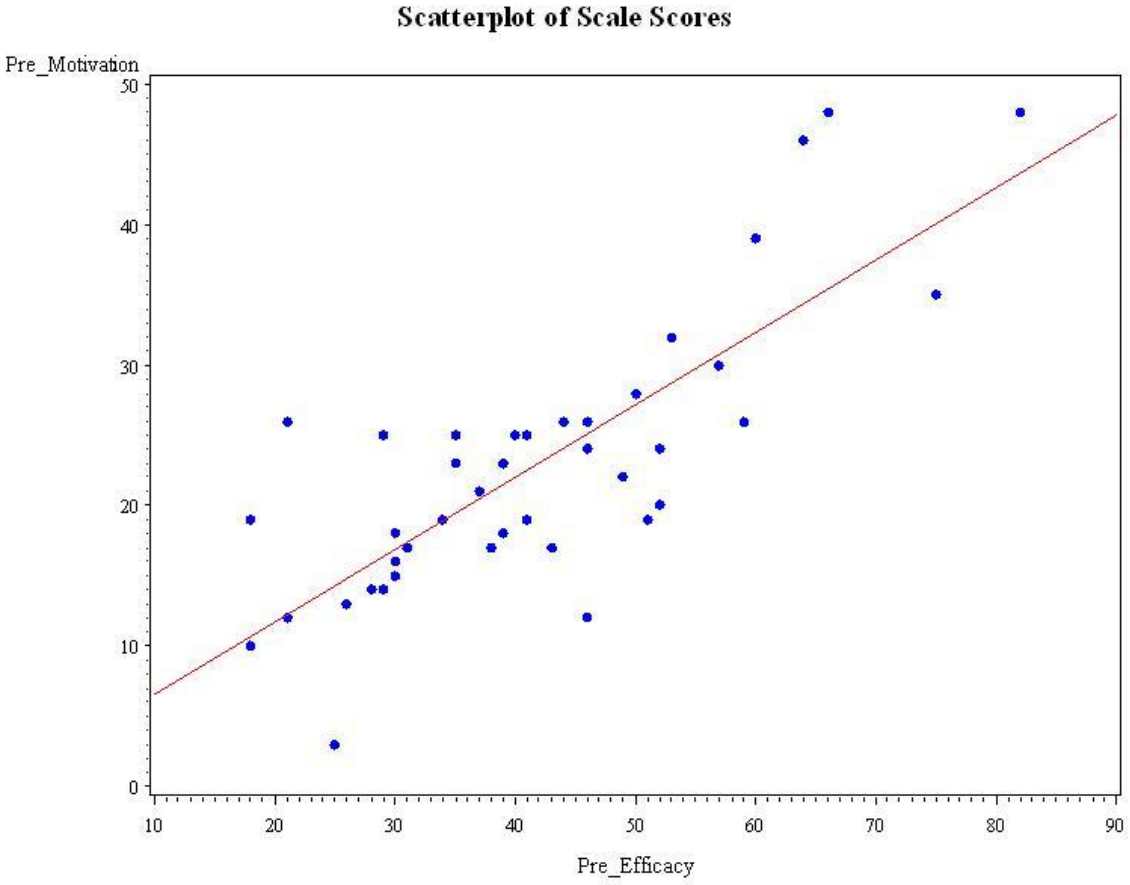
Post_Efficacy

Figure 6


Scatterplot of Scale Scores
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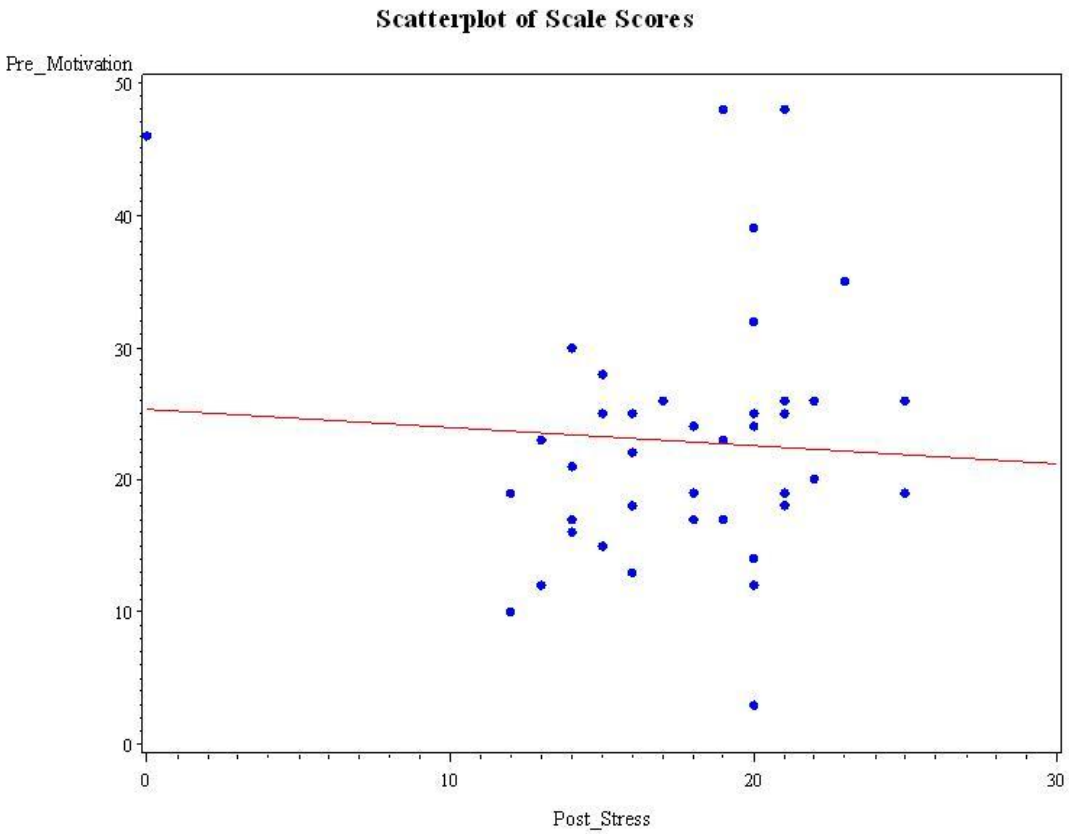
Pre_Efficacy

Figure 7


Scatterplot of Scale Scores
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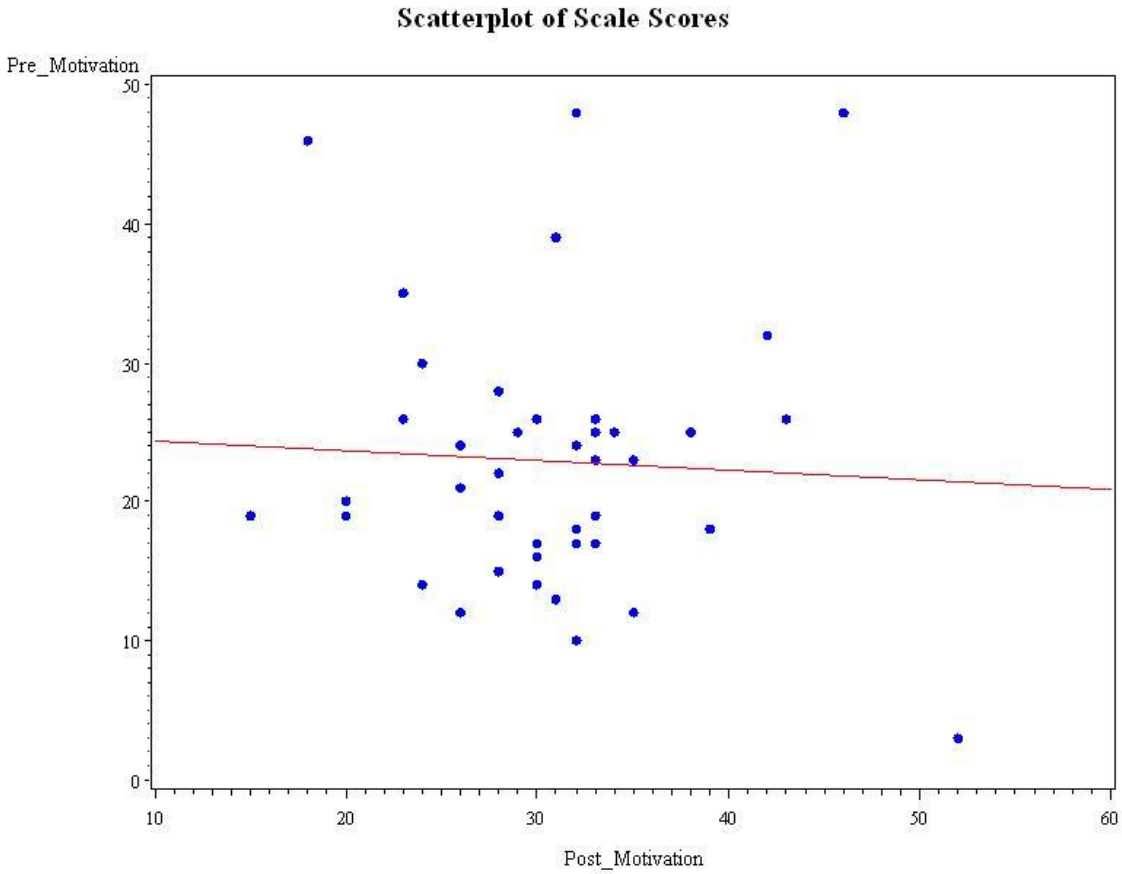
Post_Stress

Figure 8


Scatterplot of Scale Scores
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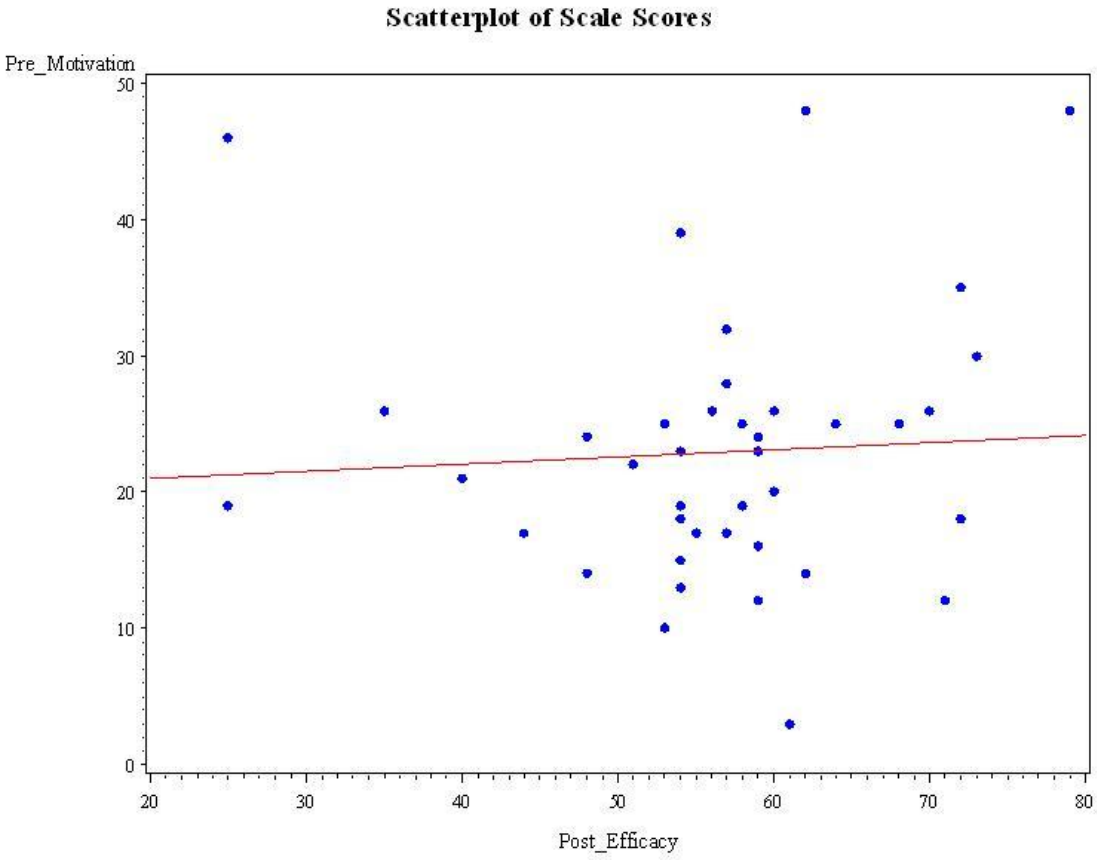
Post_Motivation

Figure 9


Scatterplot of Scale Scores
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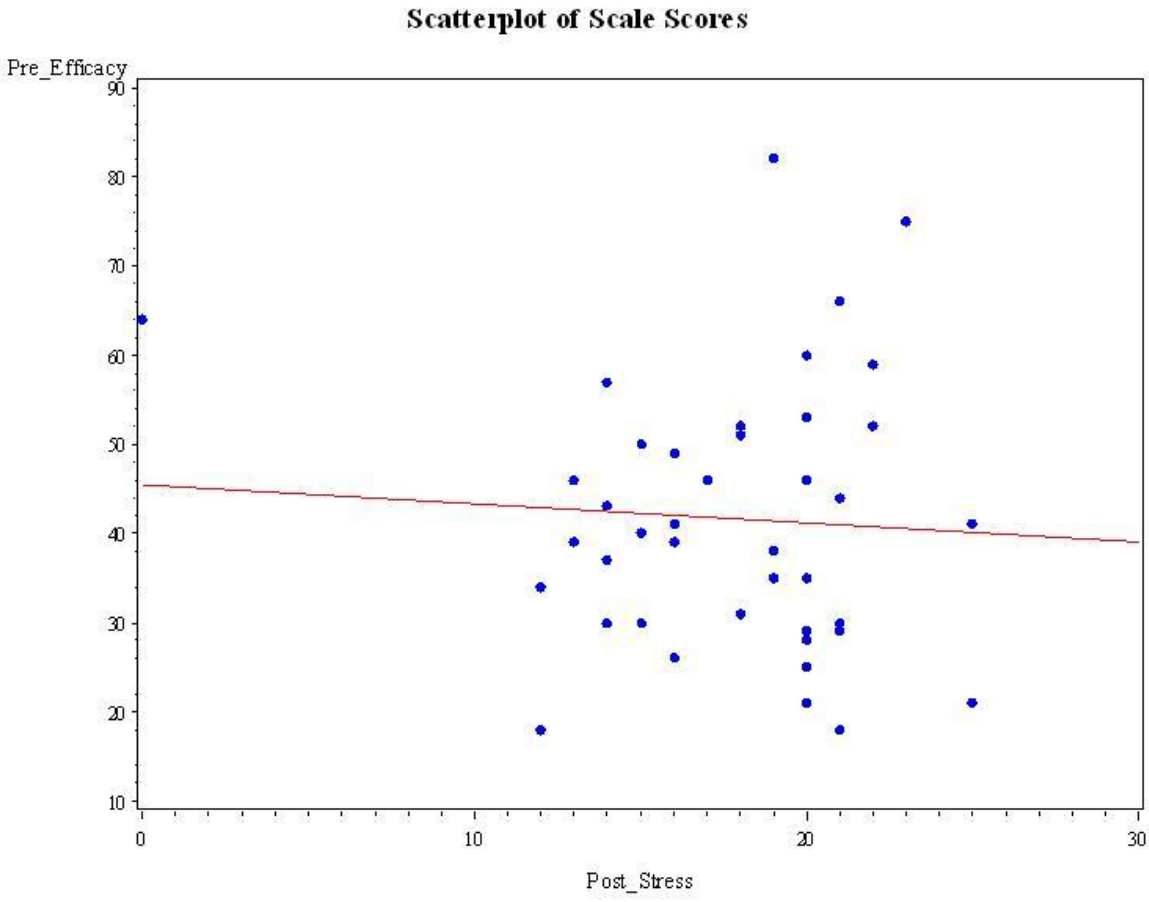
Post_Efficacy

Figure 10


Scatterplot of Scale Scores
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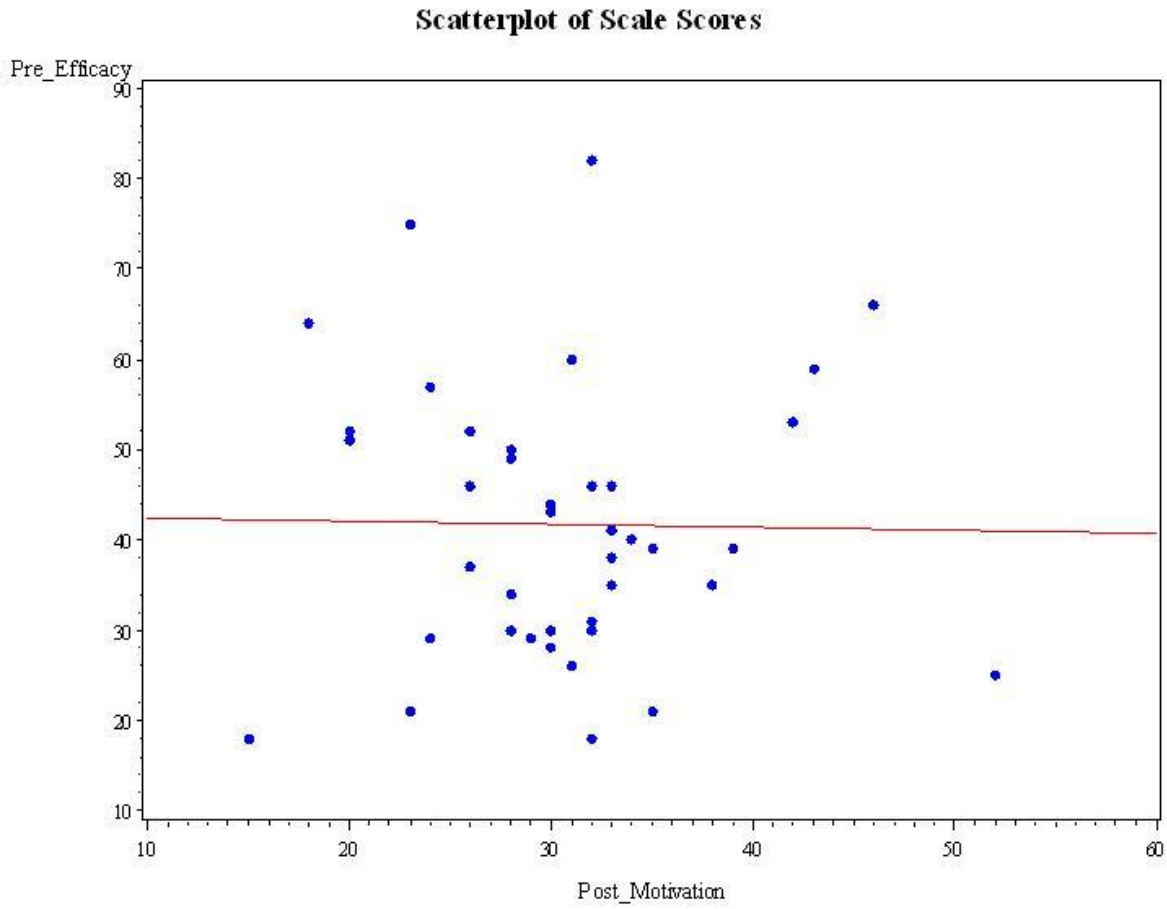
Post_Stress

Figure 11


Scatterplot of Scale Scores
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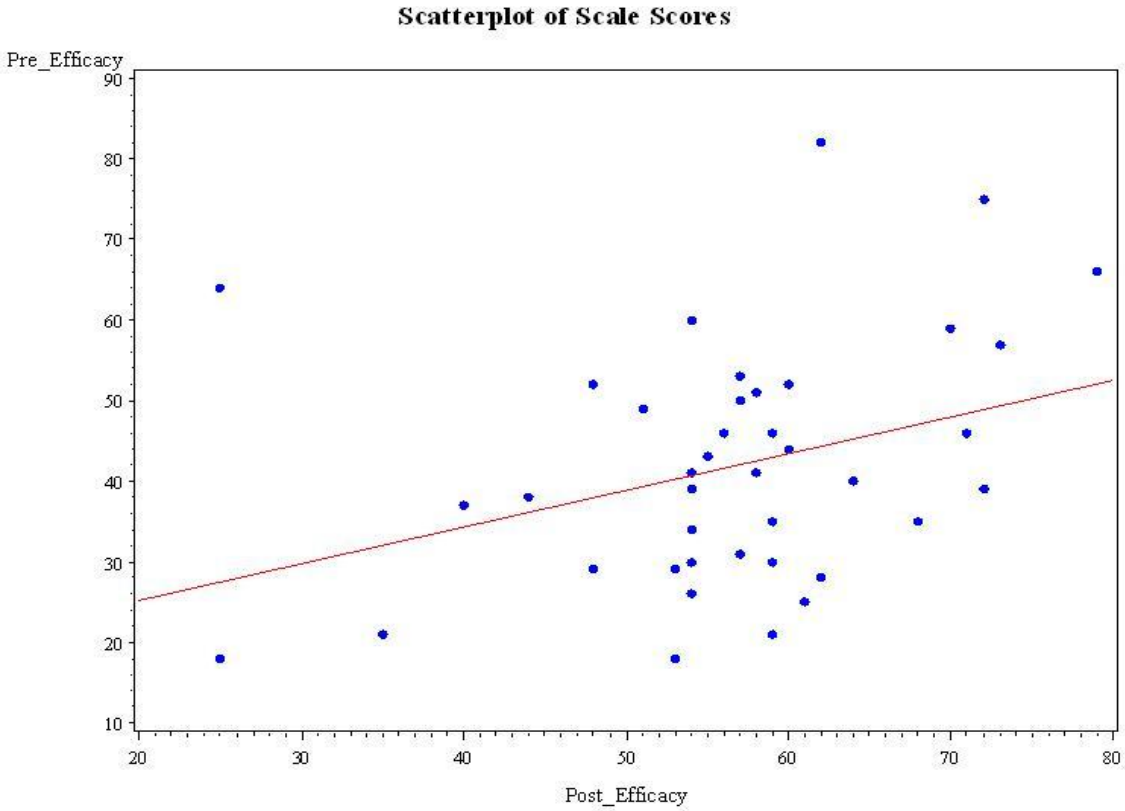
Post_Motivation

Figure 12


Scatterplot of Scale Scores
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Post_Efficacy

Figure 13

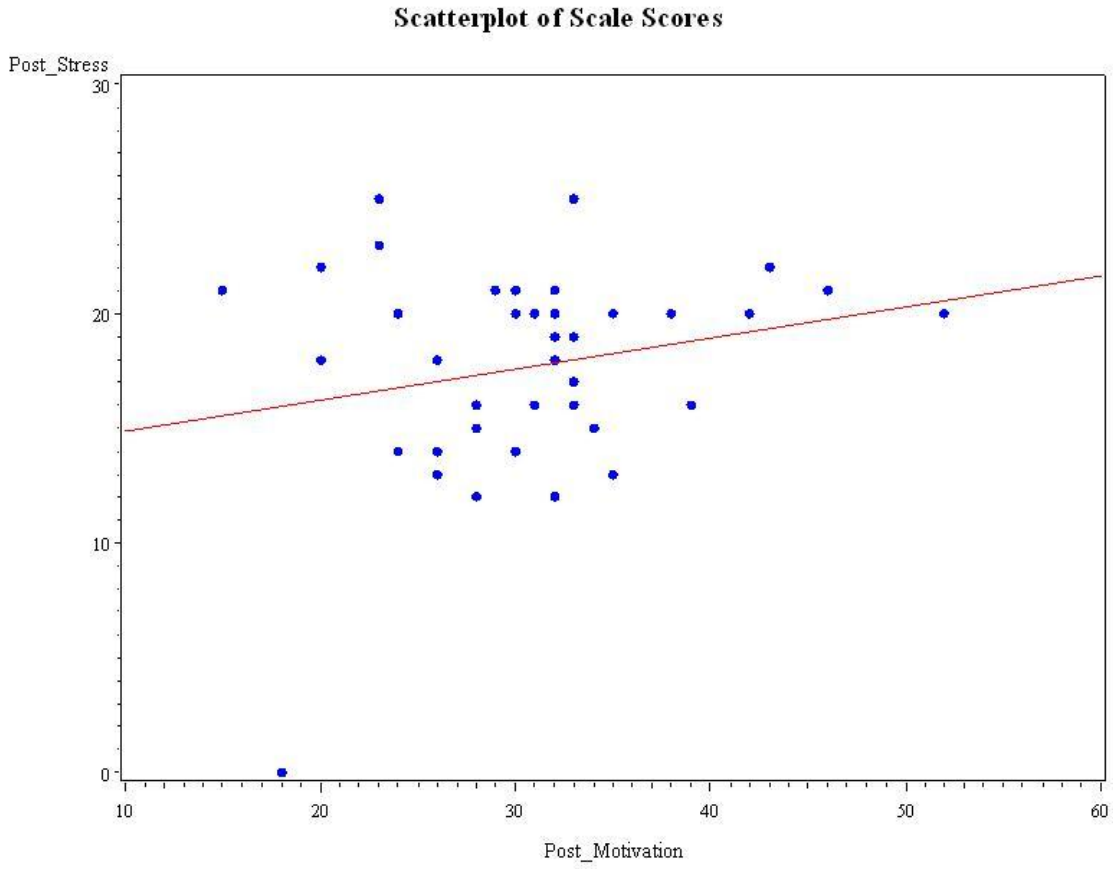
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Figure 14

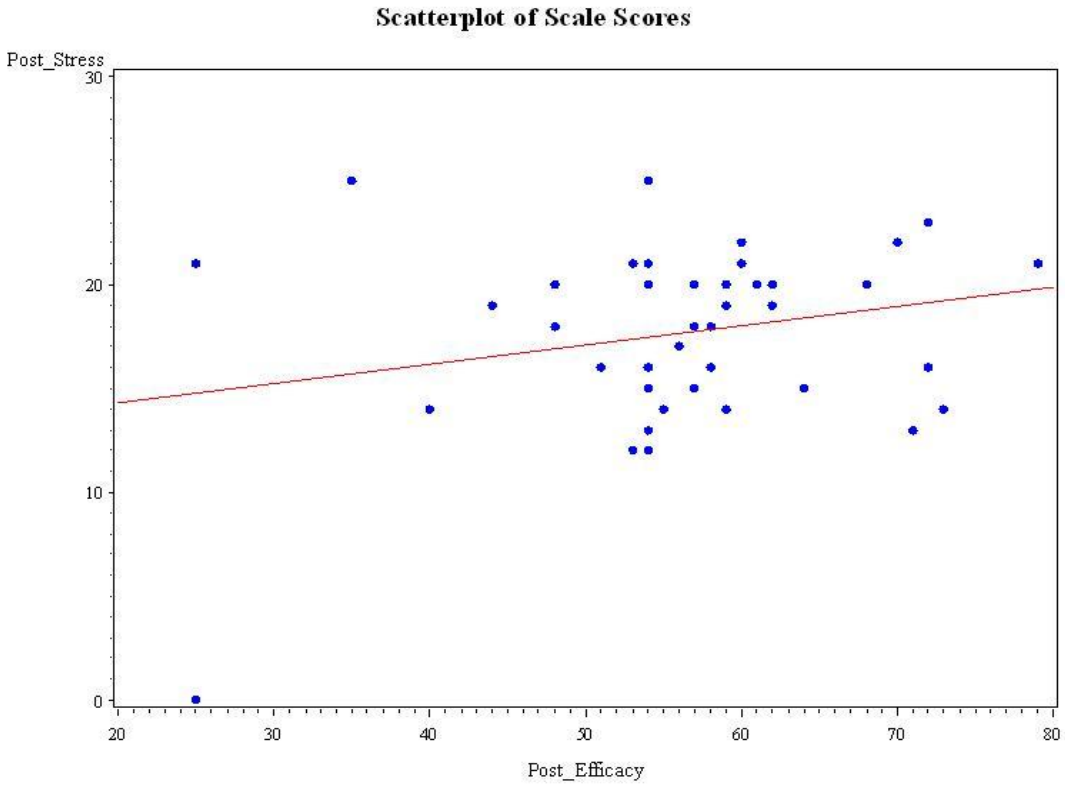
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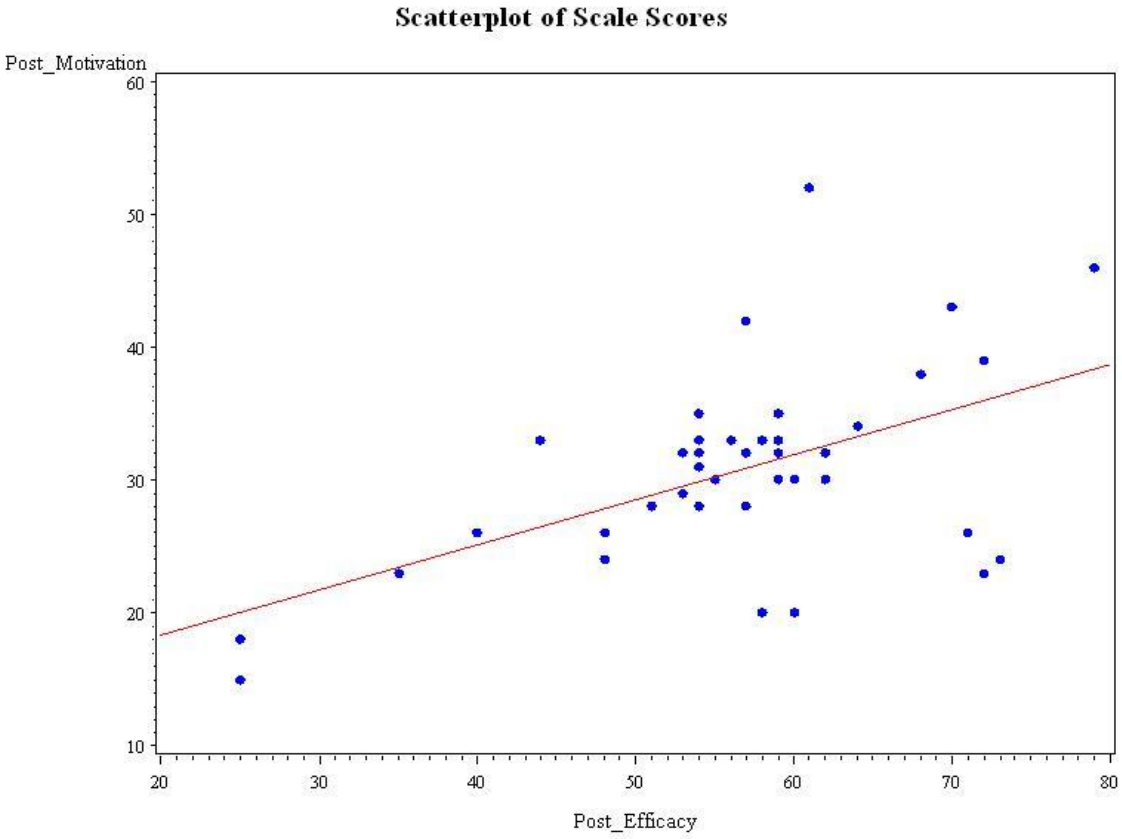
Figure 15


Scatterplot of Scale Scores
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Post_Efficacy

Appendix C

Profile Plots Figures 16-18

Figure 16

Profile Plot for Stress

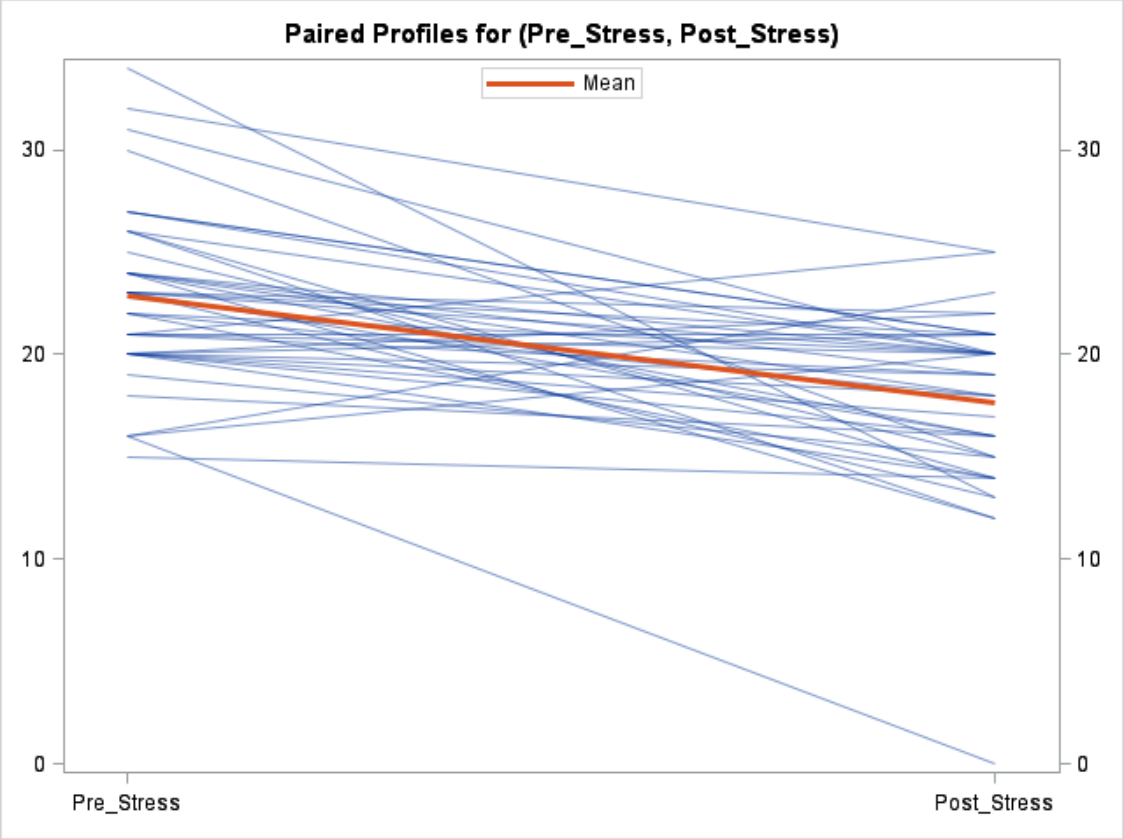

Figure 17

Profile Plot for Motivation

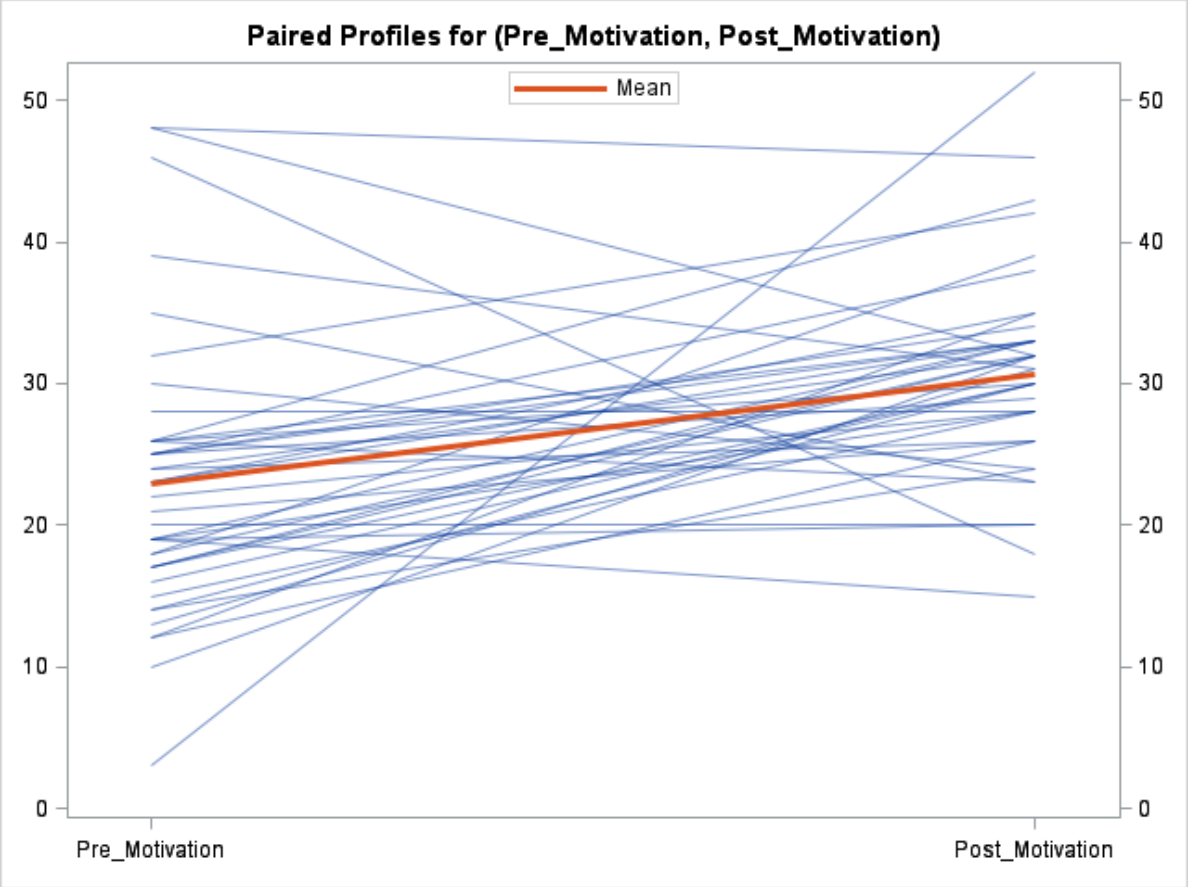

Figure 18

Profile Plot for Efficacy